MOTOR TREND

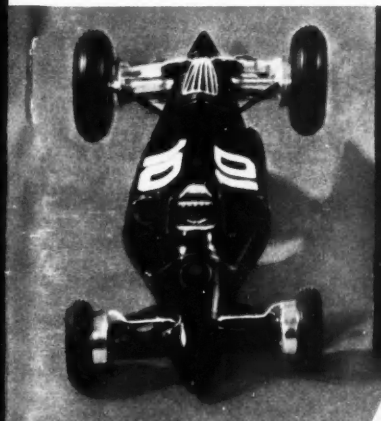
JULY 1956 25c

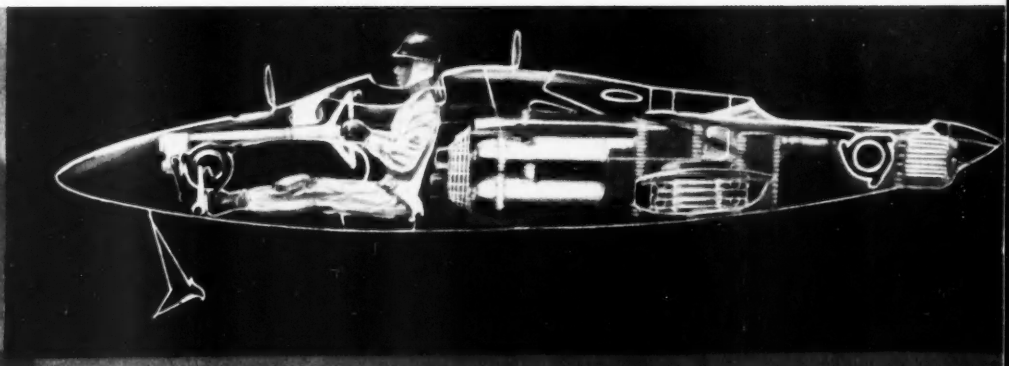
How to Buy Your Next Tire

MERCEDES 300-SL SPORTS CAR TEST

FUELS: More Punch Coming

What's Next With Studebaker and Packard?





A TURBINE FOR THE TRACK?

New Spark Plug Invention!

SELF-CLEANING, 21 POINT Nickel-Cadmium SPARK PLUG

Spark arcs from 21 or more points

TESTS PROVE: ★ 10 HORSEPOWER GAIN ★ 9 MPH GREATER SPEED ★ 15% FUEL SAVING

THE INSULATOR...High-voltage patented Ebanite® insulator, developed and used only by Life-Long, has a hardness in the same range as precious jewels. You can identify Life-Long Plugs by the black insulators. This costly new material has 20 times higher thermal conductivity than ordinary insulators.

THE BUSINESS END...New type solid electrodes have no points to burn off! The "business" end of Life-Long Plug utilizes unique nickel-cadmium electrodes to produce fuller, hotter spark arcing from 21 or more points and spreading around the full 360° circle. Life-Long Plugs have approximately 40 times more firing surface than conventional one-electrode plugs, giving more efficient, even combustion.

THE SHELL...Made of a new alloy developed specifically for Life-Long by modern metallurgy. Unlike old style 2-piece shells, the Life-Long shell is one precision-machined piece fused to the Ebanite insulator under tremendous hydraulic pressure and induction to make a positive seal. This prevents "blow-by," major cause of failure in plugs with 2-part shells.

LIFE-LONG NICKEL-CADMIUM PLUGS ARE GUARANTEED TO:

1—End plug replacement costs
2—Step up engine horsepower
3—Increase your gasoline mileage
4—Improve acceleration
5—Give smoother idling
6—End engine knock
7—Never need regapping

With the introduction of sensational new-type Life-Long Nickel-Cadmium Plugs, the spark plug is no longer the "most troublesome, most often-replaced" part of your automobile. In fact, you will never have to replace the plugs in your car once you install a set of Life-Long Plugs!

LIFE-LONG—WORLD'S ONLY PLUG WITH FULL-CIRCLE FIRING

Life-Long's revolutionary "ring of fire" principle is the first major improvement in plugs in 25 years. Instead of small "spot" spark arcing between the same two points, the Life-Long Plug makes a hot spark 400% to 500% greater in volume, spread around the entire circumference of the solid electrode. The piston stroke of today's high-compression engines is so powerful that it can actually "blow out" the spark produced by old type plugs. Blowing out is impossible with Life-Long's full-circle spark.

Heat is spread around the full perimeter, resulting in cooler electrode temperature. The causes of wear, burning and insulator failure are eliminated.

SELF-CLEANING. Because the Life-Long Plug fires simultaneously inside and outside the shell, fuel mixture is ignited at the same time a powerful turbo wiping action, created by the piston stroke, burns and blows out the carbon. Power loss is prevented and you get greatly increased horsepower and gasoline mileage. In a series of road tests, some cars have shown 10 horsepower gain, mileage increase 15% and more.

OIL INDUSTRY RESEARCH DISCOVERS AMAZING ELECTRODE SECRET

Research engineers of leading oil companies recently revealed that nickel-cadmium is the most perfect material yet developed for the electrodes of spark plugs designed for modern high-compression, internal combustion automobile engines. The nickel-cadmium solid electrode of the Life-Long Plug has ideal characteristics of extremely high conductivity and durability, being able to withstand temperatures of 3500° indefinitely.

BUILT-IN CADALLOY CATALYST

These same research engineers also discovered that a new alloy (which we call Cadalloy) introduced into the combustion chamber of a plug, acts as a catalyst to produce the most efficient fuel combustion. Life-Long Plugs are the first to use this important discovery!

ATTENTION, OWNERS OF 12-VOLT AUTOS. Conventional plugs, designed for 6-volt electrical systems, do not function well in modern 12-volt systems. Life-Long Plugs are designed to handle twice the voltage capacity of 6-volt systems. If your car has a 12-volt system, don't be misled—only Life-Long gives you full plug efficiency!

LIFE-LONG PLUGS ACTUALLY COST LESS! A set of Life-Long Nickel-Cadmium Plugs will outlast six or more sets of ordinary plugs. You end replacement costs completely. Yet the set of 6 Life-Long Plugs costs only $8.95 each. Set of 8 only $11.95.

ORDER REGISTERED SET FOR YOUR CAR NOW. Life-Long Nickel-Cadmium Spark Plugs come to you in a tamper-proof, laminated plastic container. Sealed at the factory, your Life-Long Plugs are not touched until *you* break the seal.

PLEASE NOTE: *The Life-Long spark plug is different in every way—not just an "improved" plug, but an entirely new engineering development!*

Bonded Guarantee

"I certify that the set of self-cleaning, 21 pt. Life-Long Nickel-Cadmium Spark Plugs you will receive are identical to those used in my own car for over 100,000 miles. I guarantee that Life-Long Plugs will give you an immediate horsepower and mileage gain and will continue to fire clean, hot and steady without cleaning or regapping."

J. M. Watt

J. M. WATT, President
LIFE-LONG SPARK PLUG CORP.

Only spark plug guarantee backed by a cash bond held by an independent financial institution (details on request).

LIFE-LONG SPARK PLUG CORP., Dept. MT-76
140 Kansas Street, El Segundo, California

Please mail postpaid_____registered sets of Life-Long Nickel-Cadmium Spark Plugs guaranteed to increase my car's mileage, speed and horsepower. (Set of 6, $8.95; set of 8, $11.95.)

Name_____

Street_____

City_____ Zone_____ State_____

Year of Car_____ Model of Car_____

Make of Car_____ No. of Cylinders_____

I enclose ☐ check ☐ cash ☐ money order

LIFE-LONG
SPARK PLUG CORPORATION
140 Kansas Street, El Segundo, California

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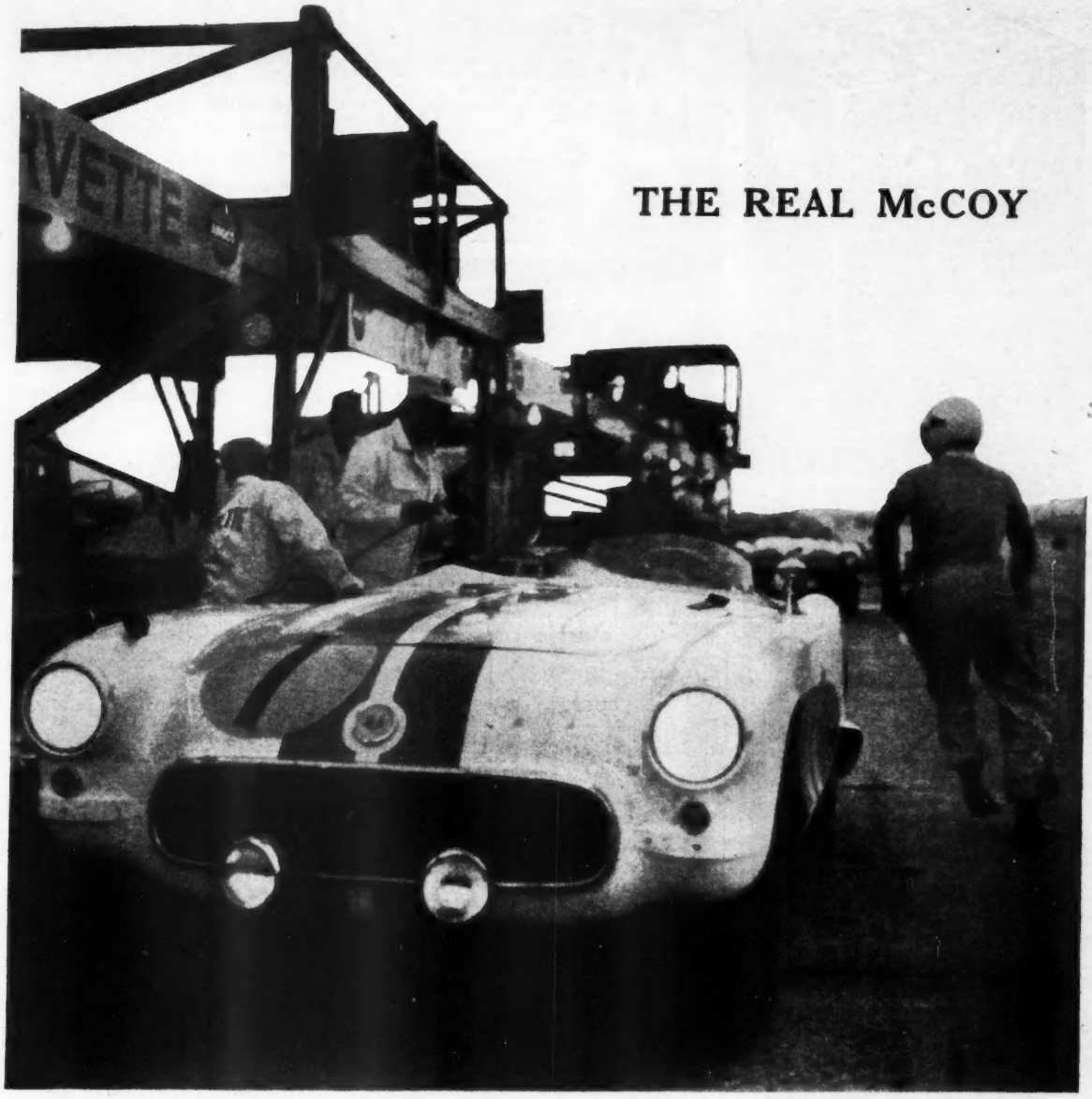

Here is the most remarkable car made in America today — the new Chevrolet Corvette.

Why remarkable?

Because it is *two* cars wrapped up in one sleek skin. One is a luxury car with glove-soft upholstery, wind-up windows, a removable hardtop (with virtually 360° vision), or fabric top, ample luggage space, a velvety ride and all the power assists you could want, including power-operated fabric top* and Powerglide transmission*.

The other is a sports car. And we mean the real McCoy, a tough, road-gripping torpedo-on-wheels with the stamina to last through the brutal 12 hours of Sebring, a close-ratio transmission (2.2 low gear, 1.31 second) matched to engine torque characteristics, razor-sharp steering (16 to 1) that puts *command* into your fingertips.

Other people make a luxury car that has much the same dimensions as this. That's not so tough. And the Europeans make some real rugged competition sports cars—and that's considerably tougher. But nobody but Chevrolet makes a luxury car that *also* is a genuine 100-proof sports car.

It's a wicked combination to work out, and we didn't hit it overnight. But you'll find, when you take the wheel of a new Corvette, that the result is fantastic—the most heart-lifting blend of all the things you've ever wanted a car to be.

If you find it hard to believe that one car could combine such widely different characteristics we can't blame you. And no amount of talk can tell you half so much as 15 minutes in a Corvette's cockpit—so why don't you let your Chevrolet dealer set up a road test of the most remarkable car made in America today? . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

*Powerglide and power-operated fabric top optional at extra cost.

CORVETTE

MT

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CONTENTS: JULY 1956

PUBLISHED MONTHLY VOL. 8 NO. 7

AUDITED PAID CIRCULATION ABC

the cover Gracing the cover is one of the handsomest customs we've seen in a long, long time. The proud owner of this gorgeous Studebaker, christened the "Las Vegas," is Jack Aberth, of Copley, Ohio. Additional photos and details on page 35. Ektachrome by Hube Briers. Below is Duane Dewey's concept of a turbine-powered car, with which the U.S. could recapture its lost prestige in international racing. Additional information on page 31. Photo by staff photographer Bob D'Olivo.

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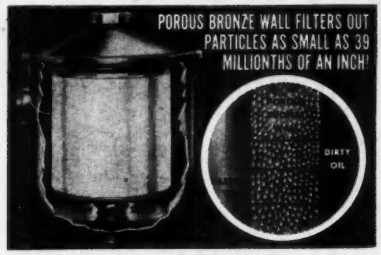
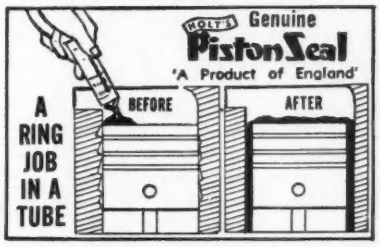
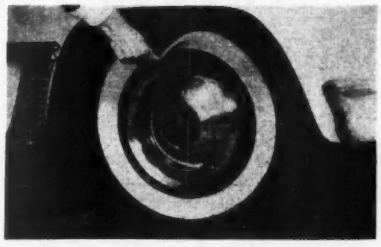
PERFECT SPARK TIMING for all driving conditions . . . right at your fingertips. Advance or retard spark manually—WHILE DRIVING—to compensate for heat, altitude, road speed, load, gas octane, etc. Gives more efficient engine operation, greater power, better gas mileage. Mounts easily on dash—do it yourself. Only $6.95. Item 2. Ppd.



PERMA-BRONZE OIL FILTER for uniform filtration. Use oil 10,000 miles. Fits standard filter case . . . ends expense of replacement cartridges forever. Easy to clean. Acid neutralizer included. 10-year guarantee. "By-pass" element $4.95; Giant "Full-flow" element $8.95; Complete filter with case and "By-pass" element $10.95. Item 3. Ppd.

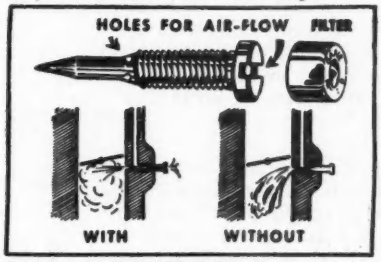


NEW "ZIP," NEW POWER for sluggish, worn engines . . . without the cost of an overhaul. Easy to use. Just unscrew spark plugs, squeeze Holt's into holes. Engine heat forms self-expanding seal that boosts compression, reduces piston slap and cuts oil consumption. Lasts up to 10,000 miles. Insured by Lloyd's of London. $4.95. Item 4. Ppd.



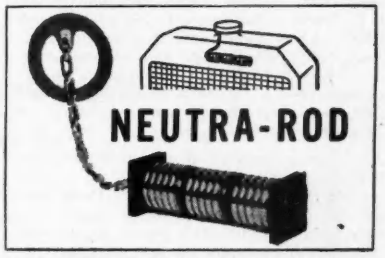
EASY-TO-INSTALL, New Flexible Rubber Whitewalls or Color-walls. "Snap on" under wheel rim—fit tubeless or tube tires snugly WITHOUT cementing. Give smart appearance, long wear. Easily transferred to your next car. Choice of white, blue, pink, red, yellow or green. State color and exact tire size. Set of 4, $9.95. Item 5. Ppd.

Now DOUBLE ENGINE LIFE. Easy to install. Simply replaces crankcase drain plug. Active magnesium element neutralizes corrosive engine acids that "eat" bearings, cylinder walls, etc. Powerful Alnico magnet captures abrasive metal particles. Standard model $1.95. Deluxe model (double size element on 200-lb. test cable) $2.45. Item 6. Ppd.



GANE AIR-JET NEEDLE gives 2 to 4 (or more) extra miles per gal. of gas. Assures proper gas-air mixture. Stops raw gas from pouring into carburetor . . . gives smoother idle. Patented Filter Cap keeps dirt out. Installs in 30 sec. Try for 10 days—full refund if not amazed. State make of carburetor (8-cyl. cars take 2). $1.50 ea. Item 7. Ppd.

NEW MILEAGE MINDER saves gas—reduces carburetor wear. Pressure Regulator and pulsation dampener stops stalling, rough idle and vapor lock. PLUS a built-in porous bronze filter that removes all foreign material. Eliminates fuel pump pulsation . . . produces smooth flow of clean fuel. Greatly improves gas mileage. $6.95. Item 8. Ppd.



RADIATOR PROTECTOR "sacrifices" its active element to clean engine cooling systems and keep them clean. Magnesium-copper disc neutralizer removes rust and scale that solvents and flushing can't touch. Eliminates "hot spots" and overheating. STOPS electrolytic action that causes radiator and head damage. Fits all cars. $1.95. Item 9. Ppd.

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Gentlemen: Please rush me the items circled at right: 1 2 3 4 5 6 7 8 9

My car is____ Year____ Model____ No. Cyl.____

Name____

Address____

City____ Zone____ State____

$____ Full Price Enclosed

$____ 20% Deposit. Send C.O.D.

(*Advertisement*)

McCulloch Supercharger Tips

by
John Thompson

Here's a report on the '56 Plymouth with a McCulloch supercharger aboard: 0 to 60 mph in 8.2 sec. Quarter mile, standing start, 16.7 sec. (89.8 mph). This compares with 11.9 and 18.9 (76 mph) respectively for the non-blown 4-barrel model. All tests were made with a push-button Powerflite transmission.

How many of you McCulloch supercharger owners know you can get a custom instrument group specially designed to show you your supercharger's performance for only $50 f.o.b. Los Angeles? Three instruments make up the group and they give you: 1) supercharger pressure, 2) manifold pressure and, 3) fuel pressure. All three instruments are mounted in a polished aluminum case that mounts either on the steering column or dashboard.

Here's a new supercharger kit. It adapts the McCulloch to the Jaguar "XK" series. Price complete is $465. While we're at it, we might as well mention the fact that we have a few kits for the MG TD and have made some installations on other imported models. We don't make kits for most of these cars because there just isn't enough demand. If you're interested, however, we can give you some advice on custom installations.

Just to show you what can be done with a McCulloch, here's our latest report on another hot "T-Bird." This car, owned by J. L. Peters of Los Angeles, recently turned 108.8 mph in the quarter mile at the Santa Ana, Calif., drag strip. The elapsed time was 13.03 seconds. Car is bored 1/8" over, stroked to 3½" (330 cu. in.), has special cam, triple carburetors and, of course, a McCulloch supercharger!

An amazing number of station wagons are being supercharged according to the reports we get from McCulloch dealers. These boys are not out to make "draggin' waggins"—they just want the extra power for pulling the hills this summer on that camping trip.

FLASH REPORT on the '56 Corvette with McCulloch supercharger aboard. 0-60 mph, 5.2 sec.; 0-80 mph, 9.1 sec.; 0-100 mph, 17.0 sec. This compares with 7.4, 12.8 and 22.2 secs. for non-blown runs. Car was strictly stock except for blower. Times were taken by stopwatch against indicated spedo readings. Complete McCulloch kits are ready now.

Now comes the commercial! If you want to add some real performance to your car, if you want to get 40 per cent or more horsepower, then you want a McCulloch supercharger! Drop me a line telling me the make and year of your car, the type carburetor and if you have power kit or other power accessories. I'll send you an illustrated folder, complete details and prices on a McCulloch kit for your car, and the name and address of the nearest McCulloch distributor. Write to John Thompson, Paxton Products Division, McCulloch Motors Corporation, 827 West Olive Street, Inglewood, California.

EDITORIAL

"Law Has No Power to Command Obedience"

TO OUR KNOWLEDGE, no state, county, or municipality has ever allowed its citizenry to observe traffic laws by the "honor system." Instead, the majority of them have permitted, or instructed, their police force to lie in wait for traffic violators, then pounce on them when least expected.

Unfortunately, we have too often seen cases where police have lain in wait for the easy prey on the less busy side of an expressway or freeway, while traffic on the other side got snarled and begged for freeing up by someone with authority. Or they have hidden behind buildings or billboards, waiting for an unwary motorist to violate a traffic law. Despite any argument to the contrary, this can do nothing but make the populace lose respect for the police and make them want to take advantage of a cop whenever and wherever possible.

We have been previously taken to task for stating that there is a traffic quota. Maybe there isn't, per se, but police departments have admitted that they must issue a certain number of citations for each moving violation to keep the "injury-accidents" down. Anyway you cut it, that adds up to a quota, which in itself may not be altogether bad. We object to the method in which it is sometimes carried out.

Many police departments keep statistics on the number of accidents caused at various intersections and locales; then, when officers are assigned their beat, they are told to watch for the violations that have been causing the most accidents. One of the points a traffic officer is judged on is his productive capacity (the number of tickets he produces). If he does not produce enough it is felt that there is a *possibility* that he may not be doing the right job, altho other factors are also taken into consideration. If, on the other hand, he has been writing too many "easy-to-get" citations instead of cruising and catching serious moving violations, he is supposed to be reprimanded. But, if we were to take specifics and generalize from them, we would come to the conclusion that far too many tickets are written by the traffic officer lying in wait.

It's much easier to sit at a corner, out of sight, and catch traffic violators than it is to cruise with traffic and catch them. The reason is simple: there just aren't as many violations when an officer is visible. But after all, isn't that what we're after—less *violations* of the law? Or do we want the crime to be committed so that we are *forced* to mete out the punishment?

We would like to think that everyone has high moral standards and would observe all traffic laws on a strict honor system, but we are not so naive as to think this would be possible. We do certainly stand for a saner approach to traffic *regulation*, and where necessary, *enforcement*, but we are most decidedly against *indiscriminate ticketing to keep up a norm.*

We are definitely of the feeling that if more of the burden of observing traffic laws were laid at the throttle foot of the driver, we might well have a society of law-abiding citizenry—instead of one made up of neck-twisting, rear-view-mirror-peering, speed-when-you-can-get-away-with-it motorists. An officer cruising with traffic can do away with this persecuted feeling of many drivers. And he'll also have more of their respect than if he's hiding behind a bushel.

—Walter A. Woron

LETTERS

OPEN LETTERS TO THE MANUFACTURERS

Dear Sir:

I now can believe the factory when they advertise the '56 Chevrolet as "The Hot One Is Even Hotter." In fact, they can get even hotter than the unfortunate owner or anyone else wants them to.

This is due, in this year of "safety advances," to Chevy wanting to be different and hiding their gasoline filler pipe behind the left tail light. When filling the tank, if a surge overflows, the actual gasoline is all around the tail and stoplight wires and bulb. If the tail light is on, or if the driver absently puts his foot on the brake, the 12-volt electrical system could provide the ignition spark. Just one little spark and you can cancel one Chevy and one gasoline attendant. Might be a good idea to warn '56 Chevy owners to turn lights off and keep off the brake while fueling or the car might become known as a real bomb on wheels—a real hot firebomb!

Tom McWilliams — Tucson, Ariz.

Dear Sirs:

Detroit does not think it fashionable for contemporary cars to be economical. The trend is to make cars heavier, engines larger and compression higher—all of which do not necessarily make an economical car, as current advertising professes.

Since the price of gasoline is going up steadily, the engineers tell us that our new high-compression engines get more power out of more displacement using more expensive high-octane gas. Instead, the trend should be this: more power from less displacement using less high-octane fuel.

America still has a lot to learn without resorting to monstrous "tugboat" engines, and extremely high compression ratios for what little economy there is in large engines. It seems that Europe is still king as far as close engineering standards go.

T. F. Park — San Bernardino, Calif.

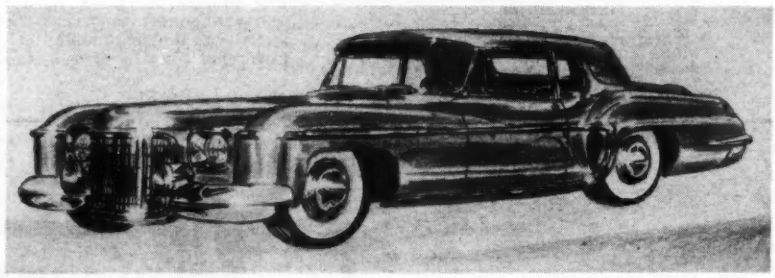
Editor:

There has been much pro and con regarding horsepower ratings of new automobiles, but nothing has been said regarding the waste of this country's natural resources that occurs as a result.

For example: I owned a '52 4-door sedan of one of the high-priced cars. This car had an advertised bhp of 160. It would go from 0 to 60 mph in about 13 seconds and could reach a speed of nearly 105 mph. It regularly gave an average of 18 miles per gallon of gas with a Dual-Range Hydra-Matic.

Being very well pleased with this car, I bought a '55 convertible of the same make. I now have 225 hp and can go from 0 to 60 in about 16 seconds. The top speed is about 102 mph and I average about 11 mpg with some kind of "matic" windmill that is called a transmission! If this is the best engineering Detroit can produce, they might as well close shop.

Glen E. Shotola — Milwaukee, Wis.



MARK III?

Dear Sir:

This is my original car of the future.

James W. Gray — Poway, Calif.

Reader Gray did not specify, but we believe this adept free-hand drawing to be his futuristic version of the Lincoln Continental Mark III.—Editor

SAVE YOUR NECK

Dear Sir:

Your article a few months ago ["Crash and Live," Oct. '55 MT] depicted a "neck saver" (not a headrest) incorporated in the seatbacks. I'm sure the importance of this feature was not fully appreciated or understood by many. I've personally known 3 patients who ended up in hospitalization, traction and death—all of these being struck from behind while stopped at a traffic signal.

Inspired by your article, I firmly bolted a "neck saver" and semi-rollbar to the back of my seat. When I am in normal driving position, the horsehair cushion is about 2 or 3 inches from the head. The convenient "glove compartment" behind the cushion is very handy.

David Riehl — Santa Barbara, Calif.

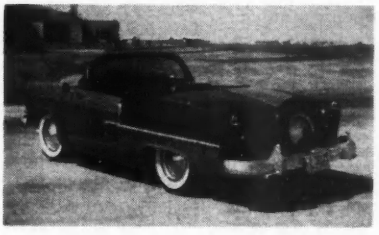
In view of the hundreds of "whiplash" injuries and broken vertebrae in hospitals each year, this installation is a wise one.—Editor

HYBRID PICKUP

Dear Sirs:

This is a 1950 Ford 2-door, 6-cylinder that was built into a pickup truck.

Description: The truck bed is an all-metal Studebaker bed. The chrome on the sides, 1954 Olds. Custom-built tails and 1956 Ford frenched headlights. Inside bed is painted with gray primer for easy touch-ups when the paint is scratched. The top of this car-truck is white and the bottom a bright red.
Bill Wentz Knox, Ind.



BEHEADED CORSAIR

Dear Editor:

. . . After removing the top from this Henry J Corsair, a '51 Ford hood was welded and leaded in for a rear deck. The Continental spare tire frame was made from Buick bumper arms and the spare tire then covered with an MG metal tire cover. The rear bumper is from a '50 Ford.

The windshields and frame are from the rear glass of a '53 Chevrolet Bel Air, welded and leaded to the original Henry J cowl. The doors have been cut down on the side to follow the contour of the body and give lines similar to the Jaguar.

The front of the car has remained stock except for the Cad-type headlight rims and removal of the hood ornament. It is painted a '55 Chevy red and black. The seats and door panels are black and ivory vinyl.
George E. Goodhead, Jr. Tulsa 12, Okla.

GUIDED BUYERS

Sirs:

We think (as a group of women) that your Buyers Guide [Jan. '56 MT] is a heartbreak saver as well as an economic measure.

. . . To turn a car inside out and describe what's good and bad about it, is just what we knew all along but couldn't put on paper. I'm lauding your magazine for the fearless way it speaks out regardless of makes, etc.
Grace Makin, Secretary
Current Events Club of L.A. Los Angeles

UNFAIR?

Dear Editor:

I should like to take issue with you regarding the Annual Motor Trend Award [May '56 MT]. To begin with, the padded dash is offered on almost all new American-made cars. The padded windshield visors force the tall driver to look thru a narrow space between the steering wheel and the visor. A plastic visor like that in cars made by American Motors gives better visibility when in use. Seatbelts are also available on most new American cars. Most of them also have safety latches on the door.

. . . The Hudson offers mechanical brakes as standard equipment to take hold in the event the other brakes fail. [When Ford introduces] a single unit body . . . it will be considered new and a great safety feature. American Motors has this body plus most of the safety features that the other company offers, yet, that company has not made the progress for safety to merit this Award.
William Payne Reading, Pa.

Two important points that reader Payne missed: the MOTOR TREND *Award is made for the "most significant advancement"* during one model year; *and, the Ford Motor Co. deserves the major share of the credit for focusing attention on safety in 1956. We agree that American Motors' cars are well-thought-out safety-wise.—Editor*

Dear Sir:

. . . I want to commend you for your award to the Ford Motor Co.

. . . Who now will come forth with a program to teach drivers the lost art of being ladies and gentlemen on our roads?
Ed Odle Van Nuys, Calif.

Dear Sir:

Congratulations on your MT Award. May it develop into an inspiration for greater automotive advancement. Your choice was the best possible.

The true reason for commending the Ford Motor Co. is their decision to "talk" safety and to attempt to impress the public that an automobile can be dangerous. Previously, manufacturers had refused to mention such a possibility.

Your award implies that their interior safety package is sound. Actually, their steering wheel does not adhere to proven safety design, their safety belts do not prevent hitting your head on the dash during deceleration, their safety locks have not been proven and the padding is incomplete.

However, the Ford Motor Co. did produce the greatest advancement in the automotive industry—not by their safety design, but by their decision to propagandize safety. As you said, it may lead to the "safety engineered car."
Charles W. Maplethorpe, Jr., M.D.
Toledo, Iowa

SPOTLIGHT ON DETROIT

by Don MacDonald

PRACTICALLY EVERY EVENING in your hometown newspaper, you read about the widowed mother of 12 who fell down the stairs and broke her leg and how the neighbors pitched in to help her.

This, we take for granted, is the American way, but the same philosophy is not usually applied during the 8-hour business day. A notable recent exception is the reaction of business and government to the well-publicized, very desperate straits of the Studebaker-Packard Corp.

AS WE GO TO PRESS, wire service teletypes are chattering out a story that looks accurate enough to put an end to the many rumors. Despite firm denials from the principals involved, Curtiss-Wright is emerging as the most likely of a number of rescuers.

"Ready for signing" is a transaction that would give the aircraft firm an option on 7 million shares of S-P stock at a considerable discount from the market value. Since 15 million shares are authorized and only about 6½ million are currently outstanding, Curtiss-Wright would have control.

THIS OLD-LINE COMPANY (named after the 1st man to fly) emerged after World War II with few peacetime products for sale. Their production aircraft were already obsolete, and they had pinned their engine development on hopes for the turbo-prop, a powerplant that turned out to be an interim measure at best.

Nevertheless, shrewd management kept the company alive and prospering as a kind of massive subcontractor (mainly aeronautical) and builder of products designed by others. They employ nearly 30,000 people in 5 states and put a substantial $35 million profit in the bank last year.

This profit, which puts Curtiss in the 52 per cent tax bracket, is one key to their interest in S-P. The latter has built up a loss of $55 million and will probably continue to lose for a while, all of which can be applied by formula against Curtiss's past and future profits.

THE 2ND KEY, and purportedly stipulated as a part of this transaction, is at least $200 million worth of new defense contracts. Top government officials, including Defense Secretary Wilson, have been quoted as "ready to do anything in their power to help S-P." The White House "is in constant touch with the situation." The Justice Dept. is "very sympathetic" to any sound merger proposal. With these attitudes behind them, whoever jumps in to the rescue can hardly lose.

IT'S AN IVORY SOAP CERTAINTY that, by the time you read this, Curtiss-Wright or some similar company will have stepped in to control S-P's affairs. No one in Detroit or Washington considers bankruptcy, the only other alternative, as an allowable possibility. From a defense standpoint alone, too great a resource and talent pool would be disbanded beyond chance of recovery in an emergency.

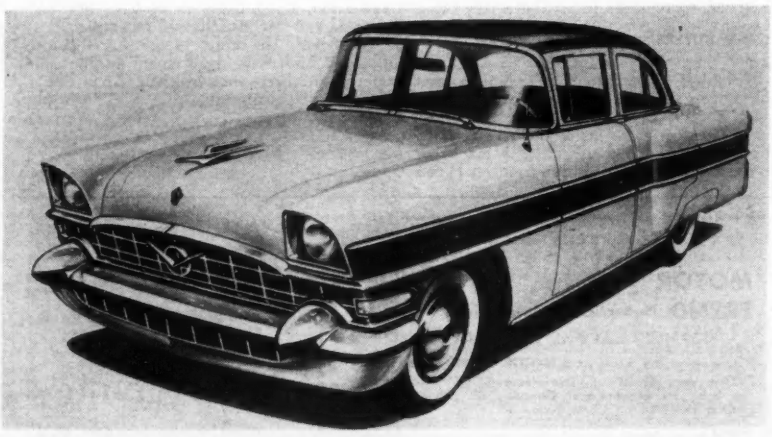
REGARDLESS OF HOW the financing is obtained, the physical facts of what will be produced where seem clear. Car production, mainly Studebakers with token Packards (no Clippers) will be concentrated in South Bend. Detroit facilities will be turned over to the anticipated defense business.

THE PLANNED COMPLETE TOOLING CHANGE for Packard has now been delayed beyond recovery, so instead there will be a facelift. Studebaker, scheduled for a '57 facelift anyway, will get greater emphasis and a larger share of available funds.

Much of the new money will be devoted to bolstering the dealer organization. Many of them (particularly those selling Packards only) are having financial problems of their own. They will have to be spoon fed with extended credit and large profit margins on each car, until everyone concerned gets back on his feet and confidence restored.

THE "FULL-LINE" APPROACH, obviously unsuccessful, will be abandoned in favor of the specialty market *à la* American Motors. Look for much emphasis on the Hawk series and a Champion that will eventually evolve along Rambler lines.

Meanwhile, there will be dark days ahead for individuals. Packard-Clipper production will shut down for the year on June 15, throwing thousands out of work in the Detroit area. It is doubtful if many of the hourly workers will be moved to South Bend, which already has a backlog of employees laid off due to curtailed Studebaker production. Future employment is dependent on military orders which, even if awarded tomorrow, would take months to reach the assembly line and so induce prosperity.



A note of irony in Studebaker-Packard's struggle was injected by the announcement of the Packard Executive, intended for the young man "on his way up in prosperous times." Base prices are $3465 for the sedan and $3560 for the hardtop, including Ultramatic. All luxury accessories and over 60 color combinations are available

WHATS NEXT WITH STUDEBAKER-PACKARD?

THE MODERN ENGINE PLANT in Utica, Mich. will shut down with car production, except for token orders from American Motors. Even this contract is due to expire in August, and renewal is doubtful as A-M now has a V8 of its own.

Despite the temporary darkness, the story is a saga of industry pitching in to help a fallen comrade, with a considerable benevolent assist from Uncle Sam.

when will we see '57s?

FURTHER INDICATION that the '57s will be born into a condensed announcement period comes with the interest shown in revival of the National Automobile Show in December (8 thru 16). Lack of show space, it seems, has been a major reason for not renewing the show since World War II; but with New York's new 300,000-square-foot, 4-level Coliseum now available, there's a good chance that we'll no longer be without a yearly auto show, sponsored as this one will be, by the Automobile Manufacturers Association (AMA).

what's the best ratio?

IS YOUR CAR FIT for your particular driving conditions? Packard-Clipper division wondered too, came up with a product-engineering report showing that more people are conscious of axle ratios than ever before. Seems that in '53, only 0.7 per cent of their buyers bothered about such things; but for the '56 season, a remarkable total of 80 per cent have requested a specific axle ratio. PC's "best bets"? Their 3.07 is a hot seller to those looking for all-around economy and performance. Where city driving predominates, they suggest a 3.31 or a 3.54 ratio, with the latter a wise choice if you live in mountainous territory. Economy-minded buyers will probably try the high-geared 2.87 to 1 ratio. Division spokesman points out that the correct selection of axle ratio can mean a 20 per cent increase in economy and performance under certain driving conditions.

glow, little plymouth

GO-GETTING Petzold Motor Sales Co., Detroit Chrysler-Plymouth merchant, manages about once a year to come up with an idea that merits national recognition. Last time it was placing a Ford and Chevrolet in its showroom full of Plymouths for customer comparison, with more of them outside for demonstration (MT, Apr. '55). Now they are offering 100 Plymouths that glow in the dark at no extra cost for an introductory period of 2 weeks. A reflective overcoating (made by Minnesota Mining and Mfg. Co.) is sprayed over the regular finish. Available in green, blue, brown, and magenta red for 2-tone effects that harmonize with Plymouth's standard colors, a car so treated is claimed to be visible 1500-1700 feet away at night as compared to less than half that distance for an untreated car. With its obvious safety feature, we predict the process will quickly see widespread use, just as the similar MMM luminous paint has become almost standard for lettering on railway freight cars.

more station wagons

LOOK FOR A BIG SUMMER selling season for station wagons. Plymouth sales vice president William J. Bird says Suburban models are accounting for an unprecedented 15 per cent of their total sales. Plymouth, 1st in line with an all-metal "passenger car" wagon, reached 12 per cent in '55 wagons per total sales. That's an increase of 700 per cent over '48, the year before station wagons came into their own, the year when everybody's wagons accounted for only 2½ per cent of all cars built. Last year, wagons made up some 9 per cent of passenger car sales in the industry.

PLYMOUTH'S WAGON SURVEY, cited recently by Bill Bird for all to read and heed, was based on questions asked of owners of '55 Suburbans. It showed, 1st of all, that 44 per cent of the owners were actual "suburbanites." The typical wagon-owning family contained 4 or 5 persons; of the 3 out of 4 buyers who owned a car of a different body type before buying their Suburban, 85 per cent were replacing a 2- or 4-door sedan with the station wagon.

DIGGING DEEPER INTO THE FACTS, the Plymouth survey uncovers the fact that nationally, 1 out of 8 families own 2 cars. Odds are even better that when there's a wagon around, there'll be another car—3 out of 8 wagon-owning families own 2 cars, the 2nd car being a 2- or 4-door sedan. Of the Suburban owners who had 2-door wagons, ⅓ said their next purchase would be a 4-door station wagon. "Very few" 4-door wagon owners said they'd go to a 2-door model next time.

"Chrysler Corp. will feature torsion bar suspension in its '57 models."

TRUE—Slated for front end installation only, the new system was originally planned for '55 introduction but shelved when news leaked of Packard's intention to suspend all 4 wheels on torsion bars. Ride will be as soft as ever; however, it is not yet clear whether change will be across the board or reserved for more expensive models.

"Studebaker-Packard's and American Motors' insurance giveaway programs (MT, May 1956) are running into snags serious enough to possibly kill the well-intentioned idea."

TRUE—At least 8 states have legislation or court precedent prohibiting what amounts in effect to insurance being sold out of channels. Attempts to change the laws have so far succeeded only in bringing down the wrath of the firmly entrenched insurance brokers' lobby. In addition to the 8, 9 more states have issued "cease and desist" orders.

"Ford will have a 4-passenger T-Bird for family-minded buyers in 1957."

TRUE—This happy event is not only true, but true twice over. There will be 2 poor man's Continentals, a convertible and a hardtop, built to standard Ford chassis length, but with all the flair and lowness for which the T-Bird is justifiably famed.

"In return for publicity, Cadillac gives away the convertibles (13 so far) which sponsor Revlon Cosmetics uses as prizes for semi-successful contenders on TV's famed $64,000 Question."

FALSE—The cars are sold to Revlon at a price considerably above wholesale. Neither is it true that Cadillac officials "angeled" the Broadway show, *The Solid Gold Cadillac.*

"The forthcoming New York Automobile Show (date not firm yet) will spell the end of private spectaculars like GM's Motorama."

FALSE IN PART—GM is seriously considering dropping Motorama, certainly in New York; but on the other hand, Ford is brewing up a spectacular of its own to put on the road.

"Last season's dream cars, L'Universelle and Eldorado Brougham, are still slated for August '56 introduction."

FALSE—Material shortages and tooling difficulties have forced postponement to (at best) late November.

GLOVE compartment

by Pete Molson

RENAULT VS. VOLKSWAGEN

WHEN OUR EDITORIAL BOARD came to its decision to start comparative road tests and to launch the program with those on the Volkswagen and Renault 4-CV, we felt sure the reaction would be a favorable one.

We are glad to report, now, that it has been that. Not only have our correspondents been pleased, so have our colleagues in the motoring press; and approbation from that quarter is often rare.

Nonetheless, we must correct some misapprehensions and, unhappily, some goofs. My favorite letter, I think, is an impassioned defense of the Renault, which begins "Dear Mr. Molson: You are a liar . . ." and ends unexpectedly with the signature of Francophile Hans Hauptmann. Doubtless we should have given more credit to the 4-CV's enviable competition record, in which it has left the VW far behind. Yet with all our respect for racing, we feel that its lessons must be translated to benefit the average car buyer. This certain tire manufacturers have done, and their "ordinary" products are measurably better as a result (see "How to Buy a Tire," page 22).

We're sorry that we incurred the wrath of our friends (we still like *them*, anyway!) Kenneth Howard and Johnnie Green, of Renault of France. Their main beefs with us have been these:

Price Differential: We tried to bring this out, as we did the 4-CV's superior gas mileage. Nonetheless, we have an obligation to aid our readers, if we can, in making up their minds, and the fact remains that cars which are priced within $200 of one another will be compared. The reader and/or buyer, of course, must decide for himself whether a premium of any sort is worth paying.

Top Speed: We have not yet had an opportunity to drive other 4-CVs with our full test equipment, but Mr. Howard assures us that our 63-mph top speed was not that of a healthy car, and that 73 mph is the actual top of the '56 4-CV.

Sales: Renault sales may not have been huge, but it was to our chagrin that Johnnie Green pointed out their very large increase in 1955 over the low '53 and '54 sales, and the fact that sales in the 1st 3 months of '56 were above even their '55 total. Here is a portion of Green's letter (Paris papers please copy): "The restricting factor to further success is still supply, not demand . . . We have a standing order with the factory to send as many cars as are available at any time that they are available. We are selling the cars as fast as we can get them. We cannot do more."

So it seems that in many ways the girl we thought was a wallflower is actually a victim of her parents' insisting that she be home by 10 o'clock. She's going to have to be on her guard, tho, for her younger sister, name of Dauphine, is already bigger than she (June MT). Our guess is that Dauphine has more of what it takes to please American boys. If parents Howard and Green will trust their daughter in our questionable company, we'd like to take her on a week's road test some time soon. We might even compare her with a Volkswagen—the price is about the same this time!

Loyal VW Owners pointed out that 5.60 x 15, not 5.00 x 15, is the correct tire size on the car of their dreams. A consensus shows tire mileage at closer to 40,000 miles per set than the figure we quoted, and many, tho not all, letters assert that gas mileage, too, should have been better in our tests.

Foreign Car Sales. Another point here is that, while certain makes and models have dropped in popularity, others have risen. A notable pair of winners are Austin-Healey and Triumph TR-3. Both incidentally, have disproved the Detroit adage that the 2nd and 3rd years of a basic body design won't sell as well as the 1st.

CARS IN CONGRESS

NEW-CAR BUYERS particularly would be influenced by 2 bills now pending before Congress. H.R. 528 would at last amend the Federal Trade Commission Act to prohibit manufacturers from charging for freight that they have not had to pay for themselves. Freight charges are based on shipping an assembled car by rail from Detroit, when the actual car you buy may have been assembled much nearer to your town, and/or may have come there by truck or barge (both of them cost less than rail freight). As things stand, the dealer is required to pay this charge, and he simply passes it on to you.

The other bill, H.R. 6544, would amend the Federal Trade Commission Act to permit contracts establishing exclusive representation by distributors in specified geographical areas, and require the distributors to sell only in these areas. Buyers could, of course, go wherever they chose for a car. If they brought it home from another territory, the bill would permit them to get it serviced under the warranty, but their home-town dealer could collect from the selling dealer.

ALL OR NOTHING AT ALL

AN ODD NOTE in buyer preference shows up in a release from Dodge, indicating that black has shot up to the position of top single-tone color. Single colors now make up 11.4 per cent of sales (compared with 8.9 last year). Lest conservatives draw too cheerful a conclusion, 2-tones still account for 46.9 per cent (declining, however, from 52.9) and 3-tones have leaped from 23.4 per cent to 41.7. Some of the most dazzling of our new cars—like, for example, the Nash and Hudson Special V8s tested in this issue—take on entirely different personalities when dressed in, say, plain black or white.

MARKMANN VS. MOLY

COMES NOW Charles Lam Markmann, with his MG engine which he claims Liqui-Moly destroyed. He used the additive, says Markmann, in his newly rebuilt engine, whereupon it solidified, blocked oil passages, caused pistons to freeze and wrought general havoc. A suit is pending.

FRANKLIN DIES

ANOTHER AUTOMOBILE GREAT is gone. Herbert H. Franklin, designer of the late and controversial air-cooled car that bore his name, died at 89 in Syracuse, N.Y. where the car was built.

ROBOTS BUILD IMPORTS

AUTOMATION is coming to England, already in something of an automotive crisis due to a 50 per cent mandatory down payment, with anything but equanimity. The

Standard-Triumph factories at Coventry have been the scene of an unofficial strike while the new machines are being installed. Alick Dick, 39-year-old Managing Director, should get some kind of an award for directness; for diplomacy, we suggest a fur-lined gearbox. Said he: "We are not installing the equipment to employ the same number of men. We can't carry people for fun." Meanwhile we could see, in the next few months, these interesting new cars from England: A smaller Vauxhall, presumably along the lines of Ford's Anglia and Prefect. New bigger Vauxhalls (they compete with the Consul and Zephyr on the "home market," but presumably GM is wise in not importing them to the U.S.). A new Alec Issigonis-designed Morris, perhaps a new Minor, to compete with Volkswagen; perhaps (but not probably) a new light sedan, designed by E.R.A. of racing fame and built by Austin; suspension is supposedly thru a compensated independent system, *à la* Citroen DS-19. A new 120-mph sports car from the BMC group. And still another "extremely modern" sedan, to be announced before we hit the newsstands with this issue; it, too, is to compete with VW.

PENURIOUS PLYMOUTH

REVERSING THIS IMPORT TREND, a Plymouth Savoy is giving demonstrations in Scandinavia. Outwardly similar to our fin-tailed car, it develops 58 bhp, will go 75 mph, and may reasonably be expected to get 30 mpg. The reason is a 4-cylinder Perkins Diesel beneath the hood. What it may offer Detroit in the way of new markets remains to be seen, but will probably be minor, alas.

FOR A SAFER SUMMER

ONLY A FEW STATES have an effective safety check, so all the more credit is due National Vehicle Safety-Check, which this spring invited a new high of 1313 cities to participate. Testing lanes were set up during May, and all drivers invited to get the free, voluntary, 10-point appraisal of their cars. Still more communities could use Safety-Check as a model. Brakes, lights, steering, tires, exhaust, glass, wipers, mirror, and horn were included in the pre-vacation surveys.

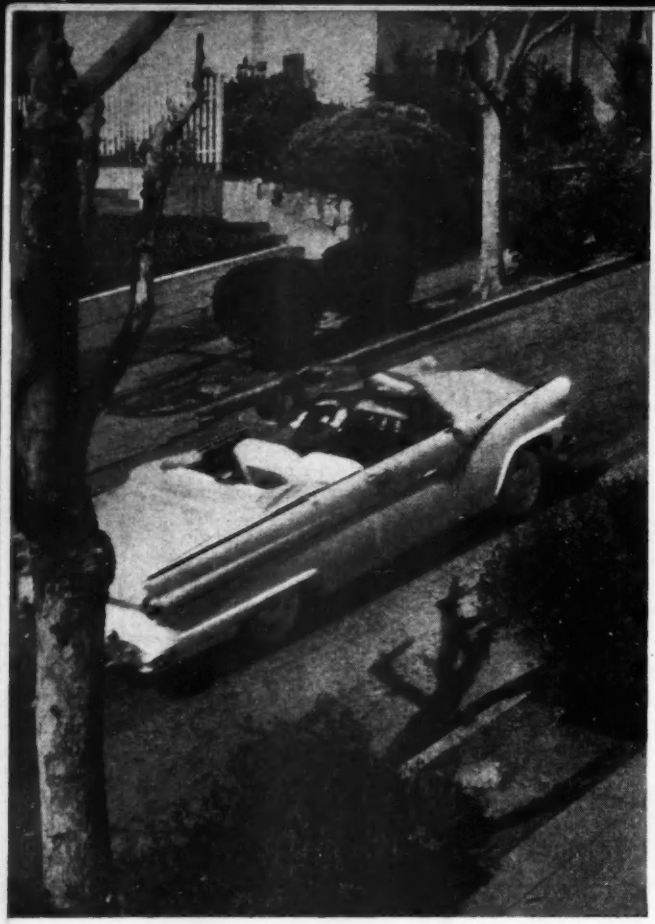
HANDSOME IS . . .

STUDEBAKER'S Golden Hawk is a pretty hot potato as it sits in the dealer's showroom but has so far escaped the active interest of race drivers. A recently announced kit for factory or dealer installation, converting it into a "Jet Streak," may change all this. Boosting horsepower to 330, it consists of an Iskenderian cam, 1955 Packard Caribbean dual 4-barrel carburetors and manifold, dual breaker distributor, and a special coil. Displacement and compression ratio remain unchanged, neither requiring a lift.

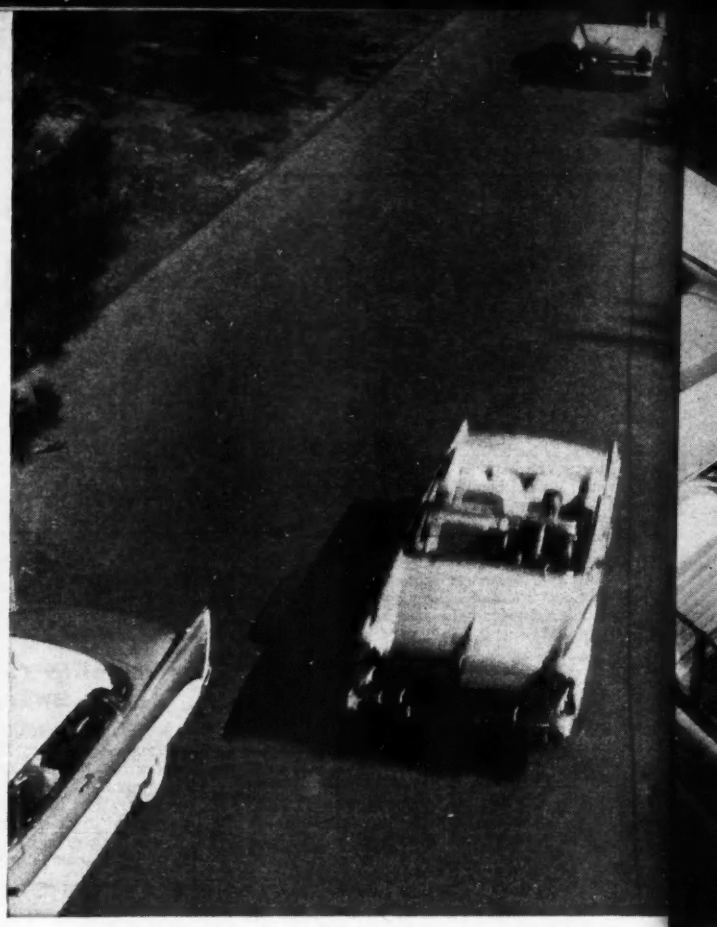
WHO STARTED IT?

AL CROCKETT, director of sales development for Mack Trucks, recently took exception to the braggadocio of his passenger car brethren. "Contemplating the much-publicized features of modern passenger cars," he declared, "we are too likely to forget that many of these, both the recently adopted and those which have become conventional, were pioneered by the truck and bus industry years before their adoption by auto manufacturers.

"Torque converter drive for buses dates back more than 10 years. Power brakes were standard equipment on trucks 30 years ago and power steering was standard on some buses as early as 1932." Still, the truck and bus industry (*Continued on page 71*)



24% more road horsepower—for hill climb!



24% more road horsepower—for passing!

Champion introduces a great new spark plug

Tests prove new Champions give big power boost to cars that have gone about 10,000 miles without a spark plug change. If you haven't changed your plugs recently, put in new Champions—and feel the difference immediately!

You just can't imagine what a difference new 5-rib Champions can make in your car's actual road horsepower.

But this difference has been proved—without a shadow of a doubt—in tests conducted by one of the country's largest independent research centers. Regular passenger cars whose plugs had gone roughly 10,000 miles were tested first with their regular plugs; then with new Champions.

Nothing about these cars was changed except their spark plugs. Yet there was an immediate increase in their road horsepower—the real power actually delivered at the rear wheels!

Some of the results were spectacular. For example, a 1955 six-cylinder car, whose plugs had gone 10,000 miles, actually showed a gain of 72.5% in road horsepower! A 1954 V-8, whose plugs had gone 12,000 miles, got a boost of 53.5%. Some cars, of course, showed smaller gains; 20% in the case of one 1955 V-8 and only 6.5% (the smallest gain) in another. *But the average road horsepower gain for all cars tested was a fraction over 24%!*

And what a difference these new plugs can make in your car's starting! Tests show Champions reduced starting time by as much as 71%—with an average of 39% for all cars tested!

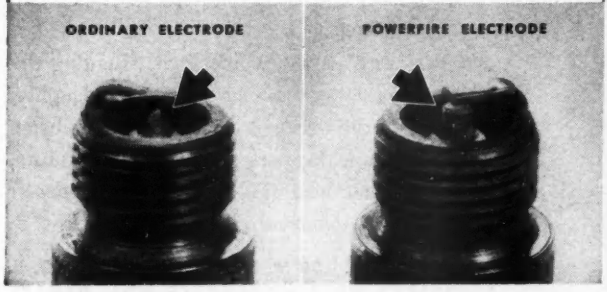
If you haven't changed plugs recently, it's high time to install new Champions. Whatever your car, these great new plugs give you more actual road horsepower—*immediately!*

24% more road horsepower—for the straightaway!

Quicker starts, too—39% quicker!

g -it can increase road horsepower by 24%!

SEE HOW MUCH BETTER AND LONGER NEW CHAMPIONS STAND UP IN TODAY'S HIGH-POWER ENGINES



New Powerfire electrode makes the difference! Both of these spark plugs have been subjected to identical use in a modern high-compression engine. As you can clearly see, the old style electrode (**left**) is badly pitted and burned away. Plugs like that in your car often misfire . . . waste power and gas. Champion's new Powerfire electrode (**right**) is still able to give many more miles of powerful, full-firing, economical performance!

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THE SUNBEAM RAPIER coupe de sport

Out of the traditions of the past spring the great fashions of the future. And out of the Rootes tradition of fine motor cars springs the classic of tomorrow, today.

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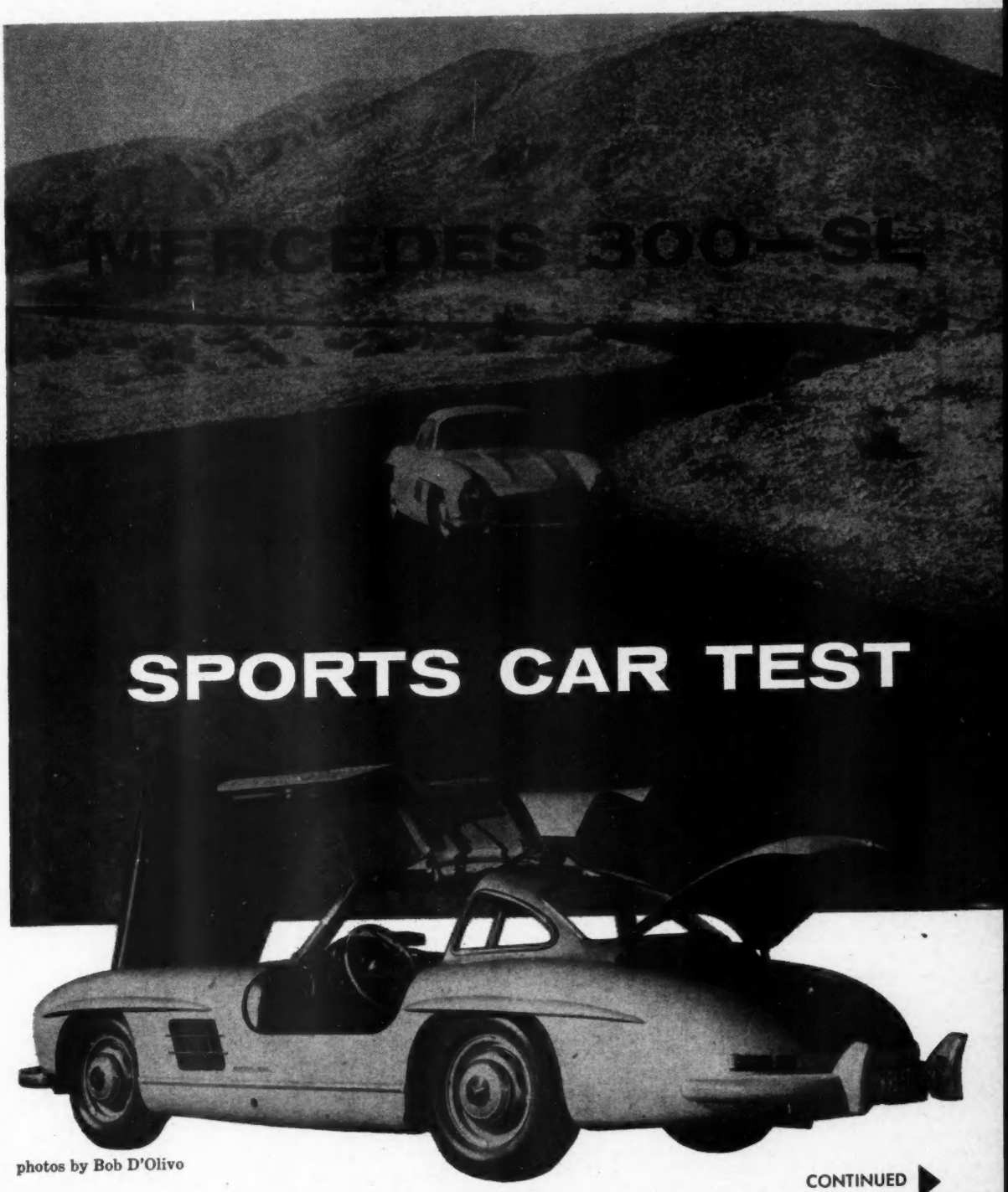

SPORTS CAR TEST

photos by Bob D'Olivo

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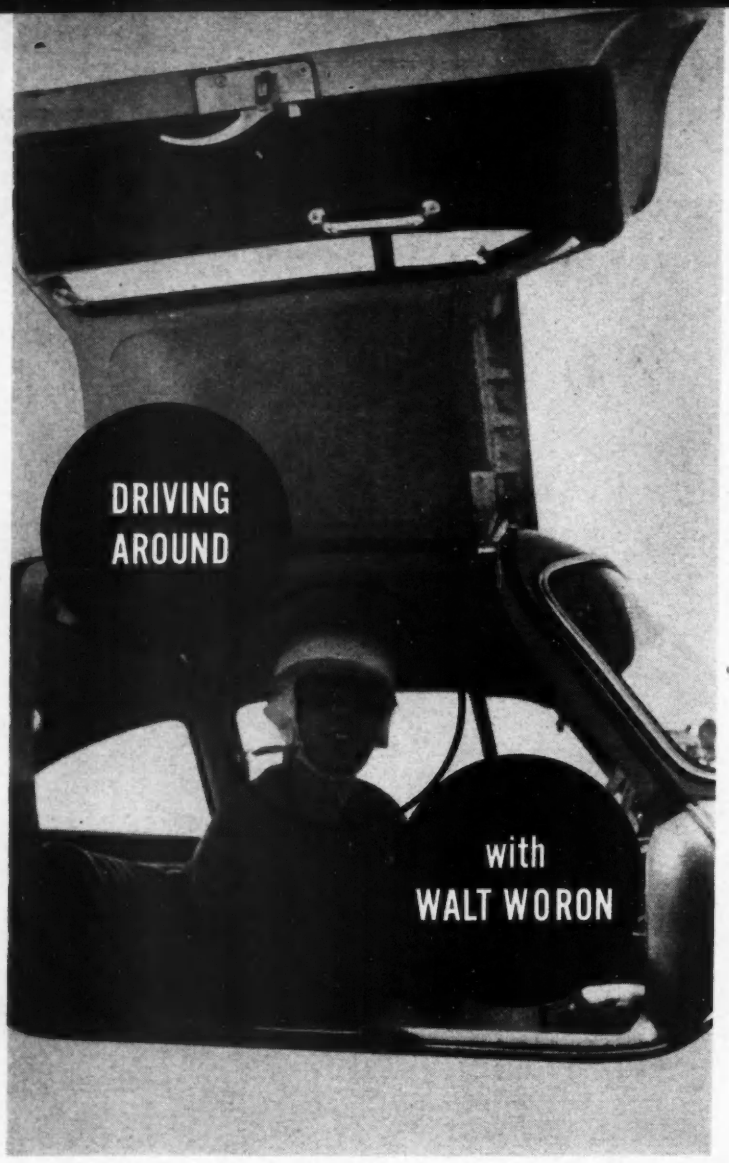
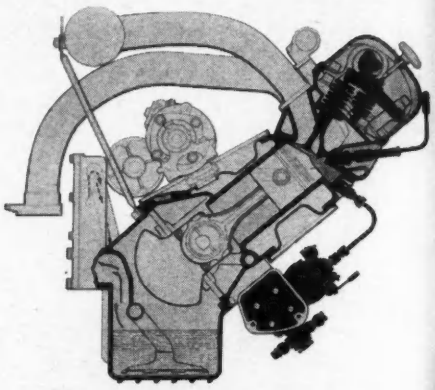




The tilted engine gets its fuel from the injection pump, tucked below the block. Air temperature and atmospheric density are compensated for by a thermostat built into the pump

The Mercedes 300-SL is one car that deserves whatever superlatives may be heaped upon it

AMONG SPORTS CAR ENTHUSIASTS 2 cars stand head and shoulders above all others: the Mercedes and the Ferrari. My nod would definitely go to the Mercedes 300-SL, mainly because it's genteel on city streets and yet in the country it becomes a raging, loping cheetah after a kill. The Ferrari, on the other hand, isn't tame enough for the restrictive boundaries of the city.

If there's a better production sports car in the world than the 300-SL, show me the way to it! Only then could the biggest automotive thrill of my life be equalled. I wouldn't mind going thru that quite often; in fact, anytime.

Why so much enthusiasm? Here's why:

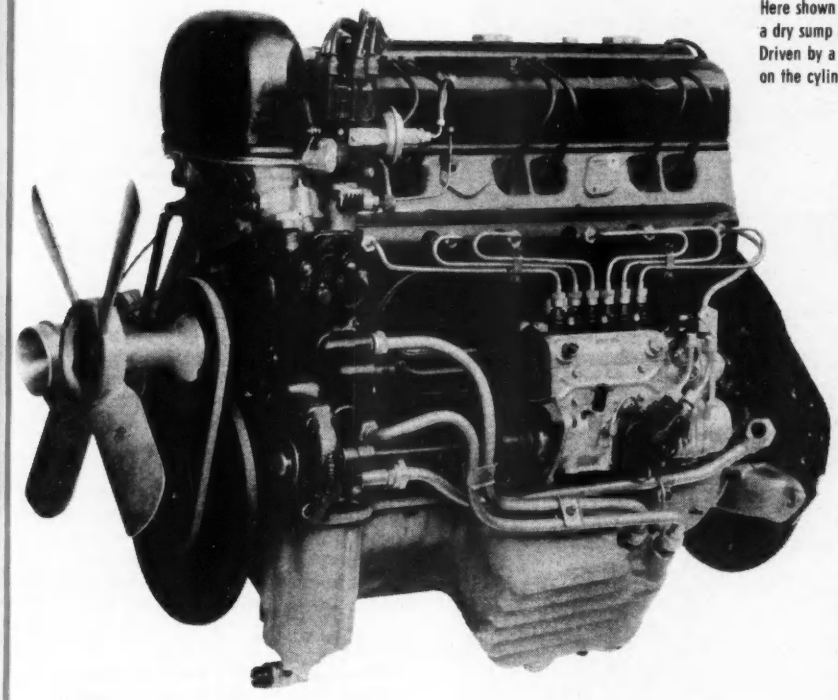
Drive it, and you'll be spoiled for all other cars until you again twist and turn yourself over the side rail, behind the "broken" wheel, and into the firmly contoured bucket seat. Command it—at any speed and in any of its 4 forward gears—and you'll get the pleasurable sensation of being *pressed* back in your seat.

The biggest surprise you'll get from the SL's performance is the fact that there seems to be no end to the acceleration: it's there from the screeching rubber takeoff, in the "tweek" of gear changes from 1st to 2nd and 2nd to 3rd, in the slap in the back of the neck when the 182-cubic-inch engine revs to around 3500, then *surges* to 6000. At 100 mph, when you would normally expect the rate of acceleration to drop off, you hook onto a passing jet and zoom on up to the top speed in a matter of seconds. It actually feels hotter from 80 mph on up to 135 mph than it does from zero to 80.

In the matter of actual acceleration times, the 300-SL was a trifle disappointing in its comparison to some other cars. For example, its time of 4.2 seconds to go from a true 30 (indicated 34) to a true 50 (indicated 56) in 2nd gear, is just slightly faster than a '56 Oldsmobile; its best time from scratch to 60 mph (indicated 67) of 8.5 seconds was but 0.7 second quicker than the Studebaker Golden Hawk with Ultramatic. The faster it goes, the better it seems to accelerate, getting to 84 mph and the end of a quarter-mile in 16.1 seconds, and going from a true 50 to a true 100 (or an indicated 108) in 14.9 seconds.

The tighter you wind it in each gear the better, too, instead of jumping on it in a lower gear and waiting for it to rev up. The best 50 to 80 times were made by winding tight in 2nd, then snapshifting to 3rd, while the same applied to the 50 to 100 times, except that it was necessary to drop into 4th.

The clutch is quite stiff and with those 220 horses straining to move, it's hard to get off the mark without burning rubber. It takes a concrete or asphaltic concrete surface and exactly the right coordination between engine revs and clutch engagement to keep from leaving tread behind you for yards. Fourth gear is mostly for high speed cruising, altho you can lug down to about 30 mph in top gear without the engine bucking in protest. The gearshift itself is close to your right hand and there's plenty of room to move it; it's



Here shown in upright position, the engine has a dry sump lubrication system and a large oil cooler. Driven by a twin roller chain, the camshaft rests on the cylinder head. Cams are extra steep

almost like writing a big letter H off to one side of your body.

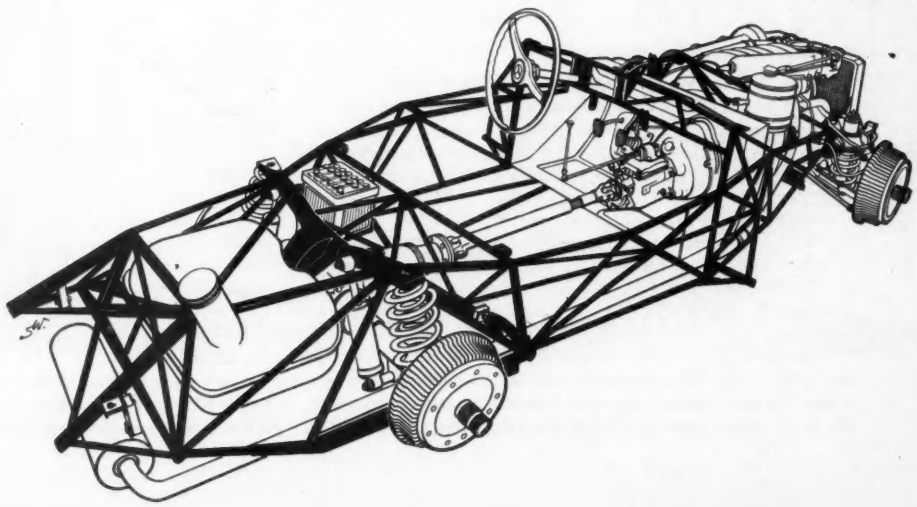
Where it Gets its Go

What's so fantastic about the 300-SL's go-ability is that it comes from an engine that gives much more than one horsepower from each cubic inch, yet is smaller than anything produced in Detroit. The inclined 6-cylinder engine (to get a lower hood line) gets much of its power from an inherently good overhead valve design with chain-driven overhead camshaft and fuel injection pump that provides the right fuel-air ratio for all conditions. It breathes right at all engine speeds, with no valve float. Everything is designed for high revs, including the balanced, 7-main-bearing crankshaft. And if you want more from the engine you can have a high lift cam installed for $120—this will up the horsepower to 240.

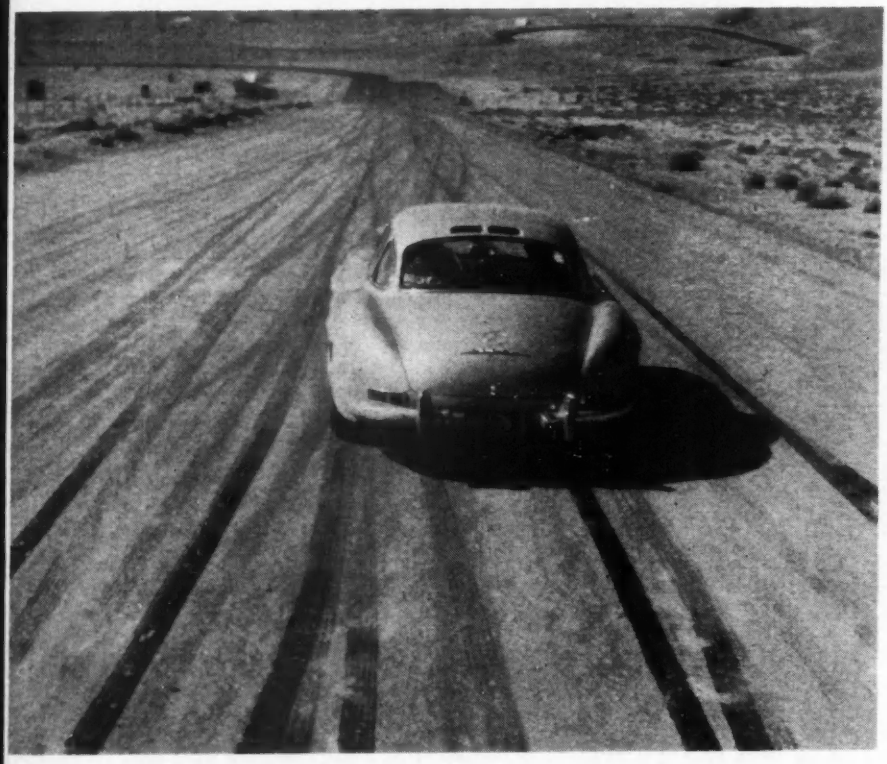
A Top of 134.73 Mph

Top speed runs were made on the caked mud surface of El Mirage Dry Lake on a clear, windless day with the temperature hovering near 75° F. To enable us to get extremely accurate times, the National Hot Rod Association set up their official timing device, consisting of electronic timing lights, electronic meter and the necessary wiring. The approach to the actual trap was laid out in a somewhat zig-zag fashion to avoid rough spots and wet patches. On the 1st run I had to change my direction to stay on course, at one time even correcting a drift at 120 mph; the car did no more than go where I aimed it. On the 2nd run I hit a soft patch and the tach dropped off, but otherwise nothing happened. The speed was 133.72 mph at a tach reading of 6100 rpm. On the 3rd run I hit a rough surface which I thought would throw me around a bit, but it was like going over a smooth railroad crossing. I must have had it flat out, for the tach would not climb above 6200 rpm; the time was 134.73 mph, which surely could be upped to 138-140 on a good asphalt or concrete surface.

This particular 300-SL had the lowest of 3 gear ratios available—3.64 to 1. The Daimler-Benz factory claims 9 mph more top speed with the 3.42 to 1 rear axle and 15 more with the highest available ratio of 3.25 to 1. CONTINUED



The lightweight body bolts as a unit to this torsionally rigid, tubular frame, which plays its part in the 300-SL's roadability. Individual struts are stressed only longitudinally. Steel-lined aluminum brakedrums efficiently dissipate heat with the aid of strong air turbulence. The now-traditional Mercedes swing axle takes only a little getting-used-to. Note lateral muffler at rear



Formidable trail of rubber is laid by 300-SL at the Willow Springs course, where violent wind gusts can perturb lesser cars. Pointing this car is all there is to it; it does the rest. Note the roof ventilators, clearly visible in this rear view

What Can Go Must Stop

Never was any trouble encountered with the power brakes; they clamp down at any speed, stopping you in real short order with slight foot pressure. Over mountainous roads and many times around the Willow Springs Road Course the brakes never faded, largely due to plenty of lining surface and radial fins to help cool the drums. Pitching forward on sudden stops is notable by its absence.

How it Handles and Rides

The roadability of the 300-SL was well demonstrated in the '52 Mexican Road Race, swept 1-2 by the Mercedes team. Driven on a straight road, it goes straight as an arrow shot from the bow of Howard Hill; there is absolutely no wind wander or side effect from wind gusts. On a snake-like road you'll find it holds the groove when you just point it where you want to go. The steering is stiff so you really get your exercise thru a turn; it's not a car for a woman.

Pushing it to its fullest thru a turn, you might find that the back end will begin to come around; the best thing is not to let it get into this position in the 1st place. If you do, you handle it pretty much the way you do a Porsche—and that is, feather off the throttle and slightly turn the wheel to bring yourself in line, coordinating the 2 as closely as possible. You'll feel it coming back onto the curve's radius, then you feather down on the throttle again. You don't want to either punch it in such a case, or back off, for you'll increase your tendency to spin.

Tony Anthony, at the Mercedes-Benz distributors in Hollywood (who loaned the car), tells me that drivers in Europe treat them rough in the turns, really mauling them thru, whereas most drivers here sort-of saw the wheel around corners. If you haven't driven a swing-axle car or one with a rear engine, you'll have to get used to the different feel of the 300-SL.

There's no weaving on washboard, whether dirt or asphalt. Streetcar tracks and ruts cause slight sidewise movement.

Many other cars tend to soften dips and bumps, while the 300-SL just squashes them. You hit a bad one and there's no floating sensation and absolutely no wallowing—you're over it and that's all.

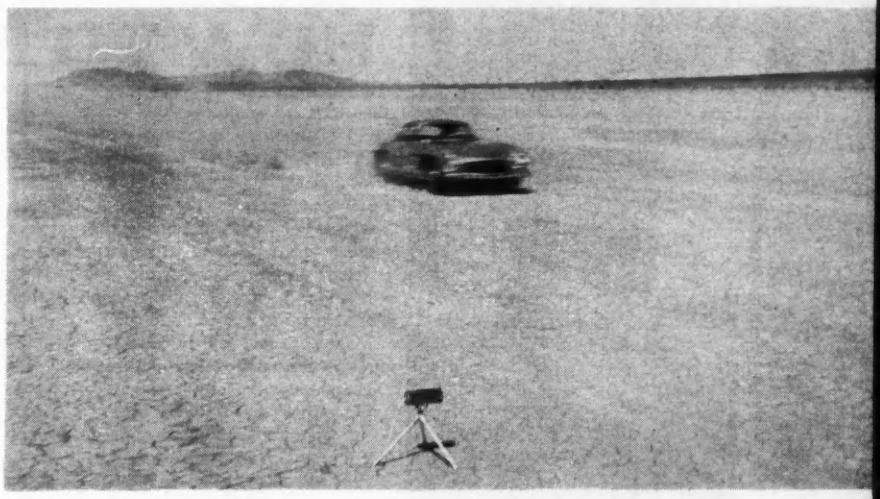
Body lean—even at speeds up to 80 mph—is certainly not of any magnitude to bother driver or passenger. As a passenger, you're immensely confident in the car, with no fear that you'll get tossed about no matter what the road surface. Here's a case too, of the rigid tubular frame and its waist-high sides giving you the feeling that you have a contact with the ground that can't be broken.

The combination of true steering, fantastic roadability, and comfortable ride are wrapped up in these things: hydraulically dampened steering; front wheels independently sprung by twin wishbones and coil springs; rear wheels suspended by swing axles and coil springs; and, double shocks all around.

Behind the Wheel

The 1st time or 2, I found it awkward climbing into the 300-SL, once bumping my head and another time banging my knee on the wheel. When I learned that you get in by sitting on the siderail and swinging your legs over, making sure that the top is full up, I had no more trouble. In fact, it was even more convenient than a regular door in tight parking spots. Regardless of the disadvantages of such an arrangement, once you were behind the

Cockpit has no meaningless fripperies, just everything where you need it, plus pungent leather and flawless chrome. Windows are removable



Electronic timing light, official device of National Hot Rod Association, awaits coming of the 300-SL. Even top speed runs, a frequent strain, were easy with the instant response of this car. Rough surfaces and soft patches did no more than drop the tachometer a little from its firm high of 6200 rpm. Top recorded speed was nearly 135 mph, with much greater safety than in many cars driven at half that impressive speed

wheel, you would feel such pride that the trouble getting in would be completely forgotten.

The bucket seats are well-shaped, deeply padded, cloth-covered (or optional leather), and provide much comfort on short or long trips. There's good headroom and legroom for a 6-foot driver and passenger—for taller persons the space begins to get cramped.

There's nothing to hinder your view to front, sides, or rear. The windshield posts are thin and the quarter panels don't blank out a large area. There is some distortion in the corners of the windshield, where the glass curves quite sharply. There's no glare from any spot.

What Else Makes it Good

From immaculately chromed front bumper to finely finished rear bumper, from hand-rubbed top to road-hugging tread, the 300-SL is *built!* The manufacturers didn't quit with just the design of one of the nicest-appearing hunks of machinery—they made certain that it was *assembled* with the care of a German camera. Airplane-canopy-type doors clunk softly into place, chrome trim of classic era quality is fitted where it's supposed to be, gaps between panels and openings (doors, deck, hood) are all uniform, there are no rough spots in bodywork or paint, no loose threads dangling from the upholstery or headlining, no screwdriver scratches anywhere, and no sealing compound oozing out of joints.

Here is truly a car that deserves all the superlatives that can be heaped upon it. For the individualist who would have a sports car that is a giraffe's head above the crowd, there is but *one* excuse for not owning a 300-SL—and that is not having the wherewithal ($7500-$9000) to buy it.

Getting out isn't as awkward as you might imagine. To begin with, door folds up out of the way for tight parking places, leaving entranceway unobstructed. Doorsill is upholstered, clean

WORON

Hardest part is hoisting yourself up onto the broad doorsill. Once there, swing the legs over and you're on your way. Getting in is easy, since sill is a good height, even beside a curbing

A standard American passenger tire at 100 mph

HOW TO BUY A TIRE

TIRES GO FLAT only in snowstorms, hurricanes, or in the middle of a desert. And when you're 70 miles from nowhere, you won't be able to shop around much. Start looking around for a new tire or set of tires when the groove depth is about 1/8- to 3/16-inch; traction is then approaching a minimum on wet roads. Make sure that sale price reductions don't mean a quality reduction, and read the guarantee carefully. Frequently you can pick up a set of tires that were traded for whitewalls, snow tires, or not-for-you premiums of great renown.

When one of your tires has worn out or been damaged and the others aren't too worn, you should attempt to match the new tire in number of plies, composition, and approximate tread design. Continue to rotate the tires at 3000-mile intervals and keep the new tire as a spare. (An odd-size tire on the front will affect handling characteristics and promote wear. On the rear, different diameters will cause wear in the differential gears.) When you do buy a full set, the spare will then match the other 4 tires.

Good tires are exceedingly important in safe, comfortable motoring. Save yourself expense and possible injury by buying the best tire you can work into your budget, get the tire best suited to your requirements, and buy too soon rather than too late. Here are helpful hints.

Tubes vs. Tubeless. Contrary to popular belief, tubeless tires can leak or blow out, but no more than tubes. Blowouts are caused by injury to the casing from heat or impact with a curb, rock, or chuck-hole. Cuts of any size will usually produce a deflation. A tubeless tire will frequently go flat rather slowly. A tube holds air until the casing no longer provides support; this often results in a dangerously rapid deflation, or blowout. Tubes can chafe, tear, or be pinched to produce a blowout. Most of these faults can be avoided by care in mounting. Slow leaks occur in both types. Tubeless tires may lose air at the valve, bead, or thru cracks in wheel or casing. Tubes most often leak at the valve stem base or where pinched between the wheel rim and tire bead. Punctures will cause leaks in either type, as will careless mounting. Most racing tires are tube type because a high-speed tire must run cool, keep its air, and not roll off the rim on cornering.

Heat is the biggest problem over 60. Heat from tread wave and tube friction is proportionately minor in a racing tire; the tube is selected for its greater air retention. Tubeless tires are considered unsatisfactory above 90 mph, somewhat superior below 90 mph. At moderate speeds, the run-of-the-mill tire flexes violently, creating great heat; a tube adds to this by its own motion and insulation properties. Tread rubber, when too hot, will separate from the plies, resulting in the loss of part or all of the tread or blisters in the sidewalls, and a blowout.

Puncture-sealing and blowout-proof tires. Tubeless or tube tires achieve puncture-sealing with an adhesive, gummy layer that flows into and seals small holes. This tends to flow at high speeds in a hot tire, destroying balance. It is also an insulator that confines heat within the casing. Puncture-sealing tires are therefore desirable at slow speeds, undesirable for consistent speeds over 60 mph.

Blowout-proof tires don't exist. Some tires have diaphragms that hold air for a short time after the casing expires to give you time to stop safely. They also reduce heat dissipation, so are not advised for high-speed driving.

Four or six plies? Plies are layers of cloth woven of cords, forming the stress-handling portion of a casing. The number of plies determines load capacity, 6 being stronger than 4. To be sure your tires are adequate, weigh your car with the usual passengers and luggage. This is most easily done at a truck scale. Weigh the front and rear axles separately by putting only that pair of wheels on the scale. Dividing each figure by 2, you arrive at the static load per tire. Most tire stores have a table of load ratings and recommended inflation pressures for all sizes of tires. Follow it closely for maximum tire life and best handling.

Where there is considerable variation in loads, as in a station wagon or when on vacation, make sure the tires are adequate, and determine correct tire pressures for the various loads. Change pressures only when tires are cold (parking the car for about an hour is sufficient). Never reduce pressure in a hot tire; doing so will increase the tread wave and ruin the tire.

by Paul Sorber

Sizes. If you cannot find an original-size tire that will carry the load safely, or if you don't want a 6-ply, a larger tire is the only solution. But be careful. Larger tires rotate slower for a given speed, so they run cooler and last longer. They also change the effective rear-axle ratio, speedometer reading (usually they make it more accurate), height of the car, and tire clearance when turning, at bumps, and in cornering. Manufacturers have a customer information service with offices in many large cities for just such problems. Smaller-than-original tires will seldom be necessary, and are often downright dangerous.

Rayon, nylon or steel? Several years ago rayon replaced cotton as the cord material in most tire plies. Rayon was stronger, cooler running, less subject to flex-fatigue. Now, nylon is 2½ to 3 times as strong as rayon, has an even lower coefficient of friction and is considerably more flexible. Rayon absorbs water (nylon does not), but the cords are sealed in rubber. If moisture gets into plies thru a crack or puncture, goodbye tire! A pre-stretching operation overcomes nylon's bad habit of stretching under tension. While rayon expands when heated, nylon cords contract sufficiently to measurably counteract the radial growth of a tire at high speeds. Rayon-ply tires should be used only if you seldom, if ever, exceed 60 mph.

If you travel even fairly consistently above 60 mph, use nylon cord tires, with 2 possible additions: U.S. Royal Master and French Michelin-X. Both of these have steel plies in the tread area, as well as several fiber plies. These and Firestone, Dunlop, Pirelli, Englebert, and possibly others, have been repeatedly tested and proven on the world's racetracks. Most use nylon cords. Tread wave is very nearly eliminated, traction greatly improved, and dependability increased.

Rayon will be improved by research, as will nylon. Experiments are being conducted with orlon, dacron, and some silicone compounds. Until they're adequately tested, stick to rayon or, preferably, nylon. Check the spelling, too; some manufacturers have been using similar-sounding names.

Tread patterns. There would be no need for grooves in treads if road surfaces were always clean and dry. Grooves and cuts produce blocks which grip the road itself thru the usual film of oil or water. Hum and vibration result if blocks are of equal size, so most treads have blocks of different dimensions; sizes compromise between rapid wear of small blocks and poor traction of slick tires. Special treads for rural use in mud, sand and snow are worth their price (tire chains have destroyed tires on our test cars in as little as 200 miles). These special treads are poorly suited to normal roads, but near-perfect for their tasks.

Premium or plain? A premium tire is often the widest, fanciest, thickest, most expensive you can buy. It will give you a soft ride and will wear a long time if you don't drive fast. Mass and appearance alone don't signify a fine tire, tho; the mass of a big, heavy tire is distinctly undesirable at cruising speeds. Tread wave heat becomes excessive, as does wear. A good 1st or 2nd line tire is cheaper and frequently better suited to your use. If it's top quality and hence safety you're after, buy a good racing tire at the price of a premium tire. If it's prestige that's more important, consult your psychiatrist.

Tread and sidewall composition. Tread rubber composition varies radically. Some mixtures are chosen for quietness, others for maximum traction. Snow tires sometimes have various types of material imbedded in them to increase traction on ice, at the expense of wearability. It is difficult to reach specific conclusions about certain tires, as manufacturers change tread compounds without public notice. Unusual developments are resulting in, for example, colored tires and silicone-based components. In general, take the statement "Racing improves the breed" as a guide. Racetracks quickly weed out inferior tires, especially those intended for the over-60 ranges.

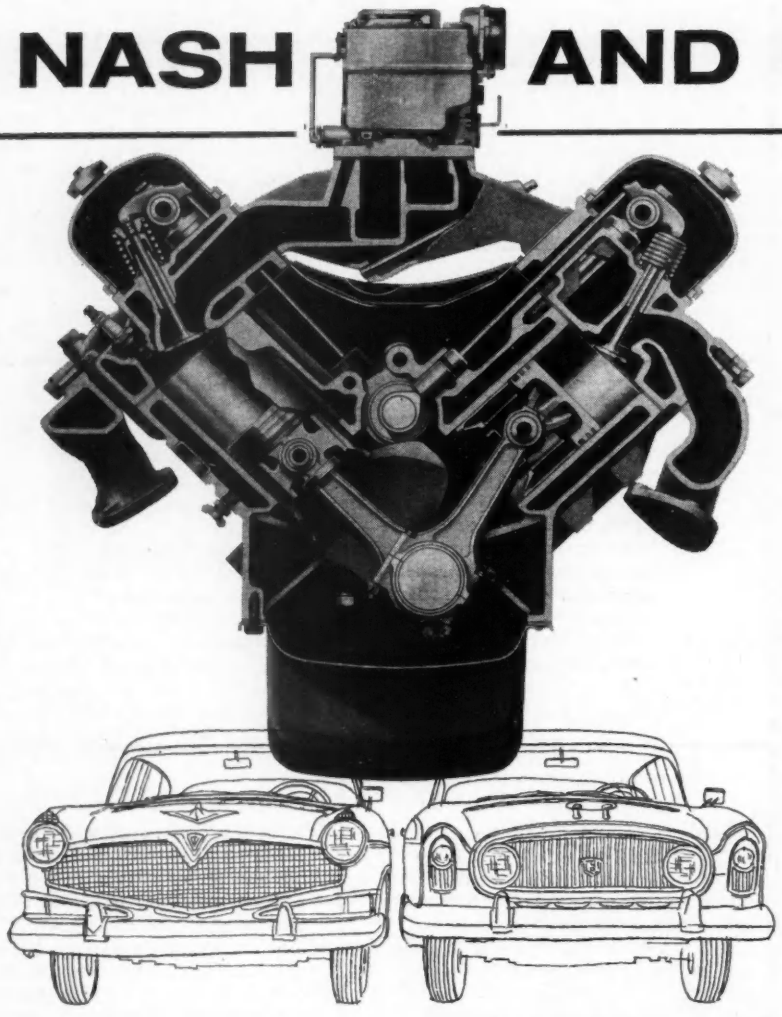
Aside from black, tire sidewalls come in white and colors, different widths, unique patterns, and strange locations. Whitewalls (or colorwalls) are not advisable on high-speed cars. They tend to crack when overheated, particularly in areas with high concentrations of ozone or smog. Whether you buy fancy sidewalls on one or both sides depends on how well you park, and on your pocketbook. Two-siders may be turned around for continued good appearance.

A tire to fit your needs. For conservative city traffic, and other moderately slow driving that doesn't exceed 60 mph, you have the widest choice. Rayon cords are adequate; puncture-sealing and blowout guard devices are a convenience, tread materials are less critical; color tires are probably O.K. too. Super-soft tires may be used, if desired; then you can select a tire from the other classes also.

For salesmen, commuters, and other travelers who sometimes drive between 60 and 90 mph, the choice is narrower. Insist on nylon cords. Tubeless tires are less desirable. Load capacity and accurate pressure checking (use your own gauge for accuracy) are an absolute necessity. Buy a tire built with some racing experience behind it.

For police and sports cars, and those of you who are foolish enough to drive above 90 mph, a full-fledged racing tire is a must! Actually, police seldom fall in the over-90 category; they've seen the ghastly wrecks that can result.

NASH AND HUDSON



Four-door sedans with new Hydra-Matic: Nash with power brakes and steering, Hudson without

CUSTOMERS—potential or regular, high-income buyers or moderate wage-earners—are becoming more and more aware of what the magical term V8 means when compared to an old-type 6-cylinder engine. And American Motors has been more aware of this than any of its customers. The logical conclusion? Do something about it—fast! Long known for economy, durability and good riding qualities, these models needed a shot in the arm. A-M took a brand-new V8 engine, the name and appearance from more expensive, more powerful models (Hornet and Ambassador), added a smoother transmission, and tacked on the word "Special."

Engine: Corporation's own V8 with modest 250-cubic-inch displacement, about-average 8.0 to 1 compression ratio; 240 pounds-feet torque is on the low side (by today's standards) but has a good curve, flattening out at 2000-3000 rpm. Carburetion is 2-barrel Carter, exhaust system is via 3-branch outlet with a crossover running forward of the oil pan; the single tailpipe takes off from the right side of the engine. Engine looks quite conventional; its short, fairly wide rocker arm covers (topped by a pair of knurled, man-sized thumbscrews for quick takedown) follow the 90-degree cylinder angle. Mounted on 4-point system (2 brackets fore and aft), engine has aluminum-alloy, steel-insert, 3-ring pistons, a 5-bearing crankshaft, cast iron heads. Present form is limited to the engine as described here; there's no power-pack option. With a displacement increase, carburetion could be vastly improved, and compression ratios could skyrocket. This smallest of U.S. V8s would be a natural in the Rambler at this displacement, will have to grow to meet sales demands in its present field.

Transmission: We were surprised to find a PARK position on the Hydra-Matic quadrant, meaning that Nash and Hudson Special are 1st non-GM products to utilize new "dump and fill" Hydra-Matic. Used by Cadillac, Olds, Pontiac, 4-speed automatic transmission now uses a 2nd fluid coupling instead of bands and clutches to effect shifts; result is as smooth a shift as many torque converters, with added quality of economy.

Hydra-Matic, used in big Nashes since '50, by Hudson since '51, has rarely been successful in light cars—shifts were usually accompanied by lurches. But this has been pretty well licked by the "Flash-away" Hydra-Matic. The older unit is still used in all the 6-cylinder Hudsons, Nashes and Ramblers.

Unit Chassis and Body: A single-unit (welded) body and frame mounts on 4-coil springs backed up by direct-acting Monroe shock absorbers; drive is via torque tube. These cars, like the Statesman and Wasp, have a 114¼-inch wheelbase; only dimensional difference between the Specials is in Hudson's wider front tread—at merger time, Hudson brought along its own steering and kingpin setup, retains it on Hornets and Wasps. Mechanical reserve brake comes only without power boost.

Large for their class, the Specials (without the continental tire mount, which adds 10 inches to overall length) fall in the Plymouth (205-inch), Super 88 (203-inch) class in length. With the tire, the cars need the garage space of a Dodge or an Olds 98 (both require a long 17 feet, 8 inches).

Body differences between the Nash and Hudson are in the grille, tail lights, rear

AN MT RESEARCH REPORT BY JIM LODGE

SPECIAL V8 ROAD TEST

Body sway is weakest link in both cars' roadability and ride (Nash shown)

fenders, hood, rear top-quarter panel and rear window wraparound. Inside and out, trim follows that of the larger Ambassador and Hornet.

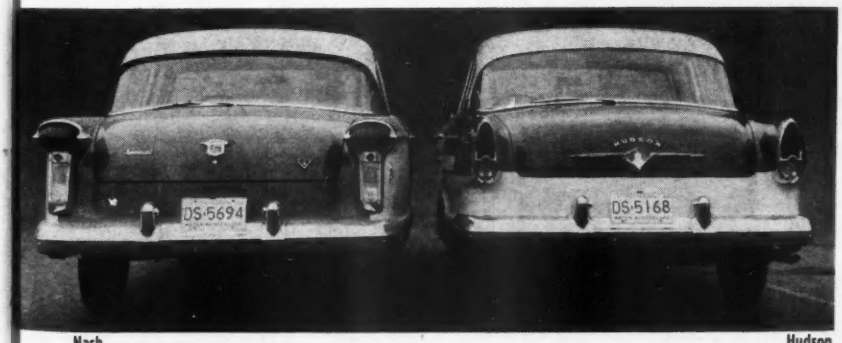
DRIVERS' COMMENTS

Driving position: High steering wheel has thick rim which, at 1st, makes the wheel seem smaller than it really is. (It's actually as large as an 18-inch Cadillac wheel, larger than that on a Plymouth or Ford.) Legroom isn't as great as in a Chevrolet or a Ford, but it's not skimpy. Nash-Hudson headroom, however, is unmatched by a Crown Imperial or any other high-, medium-, or low-priced car. Front seat is relatively high, tho not enough to make steering wheel bump your leg.

Ease of Handling: After driving a standard-steering Hudson and the power-steering Nash, we vote for power steering in these cars. Without it, steering is exceptionally stiff when parking, wheel requires a healthy tug to start front wheels around a turn at traffic speeds. On the highway, however, steering is accurate, with no feeling of looseness; directional control is good. Hudson requires about ⅓ more wheel turns (non-power steering) than the Nash when neither one has power steering; with it, the Nash is still slightly faster-steering by the book, but is not so on the road.

With power steering on either car, there's an amazing change to quick movement even tho reduction in lock-to-lock wheel movement is only about a half-turn. (By comparison, many Chrysler products drop from 5 or 5½ turns down to 3½.) The immediate relief on the Specials is most gratifying. A-M's Monroe power steering is a steady-steering setup, not too touchy, with a fair degree of road sense transmitted to the driver.

With its narrower tread, Nash Special should turn in less space than Hudson, but former's wheel stops (a hangover from shrouded front wheel days) dictate a 43¾-foot turning diameter (wall to wall), giving the Hudson the edge with a 39¼-foot circle. Fat, raised steering wheel hubs can strike your forearms when you're turning the wheel, should disappear in '57 models, when the majority of wheels will follow Ford's dished theme.



Nash Hudson

Vision: Coincidental with ease of handling is the bonus of being able to see the road close to the front of the car, or to zero in on the front-right fender when squeezing thru a crowded parking lot. Both cars have short front ends (with Hudson's seemingly shorter because of stepped hood styling), both have benefit of high fender lines; Hudson's simulated fender-top airscoops act as an added guide to car width. Rearward vision is good, and lack of tail fins or uplifted rear fenders goes unnoticed.

A-M follows the small rear-view mirror policy, preferring to sacrifice wide-angle view to the rear for a mirror that doesn't constitute a forward blind spot. Both cars were equipped (*Continued on page 54*)

TRENDS IN AUTO RACING

The explosive gain in racing attendance has caused even more confusion than shown above. Here's the latest on what's happening

by Al Kidd Sports Editor

Off to the Races . . .

THE SPORT of automobile racing, once a daredevil sort of activity that attracted only a small segment of the population, has quite suddenly mushroomed into astonishing proportions. Not since the glittering early days of the Indianapolis 500, the Vanderbilt Cup, and the Elgin Road Races has the sport enjoyed such popularity and, more important still, such widespread acceptance.

Faced with the bewildering prospect of getting on its feet again after World War II, auto racing not only succeeded in picking up the thread it had been forced to drop so suddenly, but now has the spool unwinding at an unprecedented rate. All over the country the thunder of racing engines is being greeted by the thunderous applause of the millions of fans that are jamming race courses to watch this burgeoning sport.

In newspapers we read of unfamiliar foreign names and machinery winning races in this country, on radio we hear of the latest race victory for Chevrolet or Ford, and on TV's *What's My Line?* we see the profile of stock car racer Fonty Flock, a new breed among celebrities.

And, while most American sports fans have become aware that something is afoot in automobile racing, many are having difficulty in pinpointing the reasons for this sudden speed boom. Men who drive race cars haven't changed much, and, with a few exceptions, neither have the cars they drive. The fact is that auto racing can now be clearly equated in dollars and cents, and where money rears its tempting head, enterprises tend to grow up rapidly. In doing so, they channel themselves into profitable innovations, and, in the case of auto racing, these innovations have not only clicked financially but the trends they seem to be following have met with solid public favor.

One Racing World . . .

Just as Wendell Willkie envisioned a dramatic "one world" politically, so U.S. auto racing aficionados are becoming genuinely enthused about the marked trend toward one world in racing. This growing trend owes much to the vibrant U. S. sports car movement, which, from its inception, had definite European ancestry.

Aside from the more-Parisian-than-American Harry Schell, no American had made a dent in the foreign racing scene since 1921, when Jimmy Murphy took a Duesenberg across the ocean and won the French Grand Prix. But Briggs Cunningham put the U. S. on the postwar international racing map with his valiant attempts to win the Le Mans race. The

fruit of Cunningham's visits to France came not so much in racing success as in the friends he made and the interest he stirred on both sides of the ocean.

It wasn't long after Briggs visited France that Italian Alberto Ascari came over to take a crack at Indianapolis with a Ferrari. Then Europeans and Americans met on neutral ground in the fantastic Pan American races, and they gained respect for one another. Little by little this internationalism began to spread. John Fitch drove some races for the Mercedes-Benz factory team, and young Masten Gregory campaigned in Europe with a Ferrari and achieved notable successes.

As far as this country is concerned, the trend reached a climax just a couple of months ago at Sebring, Fla. The Grand Prix of Endurance there attracted the best drivers in the world—both European and American—and in some cases Americans joined foreigners on the same team. And not only was this race a world sports car championship event, *it was a professional event.* Some amateur sports car drivers turned professional for the occasion, and, conversely, some established professionals turned to sports cars for the 1st time. Most notable among the latter was American champion Bob Sweikert, who, after Sebring (his very 1st such event) was so enthused with this sort of competition that he announced a nearly unprecedented (for a died-in-the-wool Indy driver) policy. In 1957, Bob Sweikert will drop from competition on the dusty American bull rings and race a 2.5-liter Meyer-Drake-engined car on the world championship Grand Prix circuit. Others who have been anxiously but hesitantly eyeing the same circuit are likely to follow suit.

Even this year promises to go a long way in cementing U. S.-European racing relations. Aside from Sebring there's strong talk of a match race at Monza (Italy), between the best of the U. S. and Europe —and they're willing to play the game according to our rules, i.e., take a big engine in a stereotyped chassis and have the driver "stand on it and turn left." And, just as we go to press, there's talk of a true American Grand Prix for '56 at the Los Angeles Motor Raceway. However, this year's race will not count for championship points, as it will not be recognized by the F.I.A. for at least one year. The L.A.M.R. directors are positive enough that the Grand Prix course will be constructed by early fall and have already invited the great European teams. An SCCA race has also been signed there for September 22.

In short, the Europeans are anxious to race against us and this urge is obviously becoming mutual. Watch the U. S. in international racing—it's been 35 years since Jimmy Murphy's illustrious win, but we shouldn't have to wait much longer.

The Changing Circuits . . .

It wasn't too long ago when even the most avid enthusiasts weren't dreaming of a race on anything but an oval (or nearly so) race track. But, again, the sports car influence, much surer than it has been slow, is spearheading rapid changes in this hackneyed practice. As the sports car fad grew, the twisting road courses where they raced completely captured the public fancy. But these races were mostly on natural courses (public roads in many cases), and the obvious happened; accidents occurred and the law stepped in. It may have been a blessing in disguise, because sports car fans are a determined lot. After finding airport courses generally unsatisfactory, they decided to make their own courses or find better ones on private property. The private and natural course at Willow Springs, Calif., became very popular last year, and, after an amazingly short construction period, the man-made Road America course near Elkhart Lake, Wis. opened. Nearly all agreed it was the finest circuit they had seen. Another artificial course slated to open in late fall is the Los Angeles International Motor Raceway, a mammoth project that will ultimately be capable of presenting virtually every phase of auto racing.

Well, what about these circuits, artificial or otherwise? Again the obvious—smart promoters, taking a cue from their sports car cousins, decided to try other types of racing on road circuits. First came the stocks (NASCAR's) on a road circuit (Willow Springs); then, on the same circuit, the same smart promoter put big-name professional drivers (Jim Bryan, Pat O'Connor, etc.) in sports cars, and later this year (still the same circuit and promoter) Indianapolis cars. Others don't intend to (and needn't) sit back any longer and watch the sport at Willow Springs. Wisconsin's Road America has jumped on the bandwagon with a NASCAR race in August. L. A. Raceway will undoubtedly follow suit, and the stampede that's sure to follow depends only on time and money. Just name your favorite type of racing, and you can be pretty certain that you'll be seeing it on a road-type circuit before long. It seems that every other person one talks to these days knows of "a road circuit that's in the planning stage" [at least]. It may be only a passing fancy or a product of our current plentiful and ever-searching economy, but for the foreseeable future the trend is to road circuits. The ovals will last (probably for a long time), but they may have to add a few Grand-Prix-like curlicues here and there to sustain the shifting interest of the spectators.

Bonanza from Detroit . . .

As far as spectator racing is concerned, the most unquestionable phenomenon since the War is the advent of big-time stock car racing, with Bill France's remarkable NASCAR leading the way. Stock car racing has created a public frenzy that seems to have the enduring quality that has eluded auto racing gimmicks of the past. The best analogy to the stocks is the midget auto racing boom-collapse. In the days before the War (and briefly afterward), when no 2 midgets looked or sounded alike, people flocked to watch them (much as they do the stocks now), often on a 2- or 3-night-a-week basis. But the inevitable happened: midgets got *too* profitable, everyone wound up with a Kurtis-Kraft, Meyer-Drake midget, and the spectacular aspect of the sport fizzled into a boring parade of identical cars—a pattern which Indianapolis has perpetuated in recent years.

As the midgets were toppling, the stocks were sprouting and easily taking their place. At first the stocks represented mostly thrills and chills—old cars, lots of action—and even tho some people refused to call it a sport, the stocks were drawing people. Then the bright idea: late-model stocks and the obvious appeal for racing fans in watching the same cars they drive around the streets in a full-fledged race. Nothing that anyone has ever seen in racing can match the lucrative, crowd-pleasing merry-go-round that stock car racing has created.

And just what everyone thought would happen did happen—Detroit got interested. The result is modern history, and it reached its epitome this year at NASCAR's Daytona Beach Speedweeks. The question now is: can stock car racing last, or will it follow the disastrous decline of the midgets? There *are* some sour notes aside from factory-spawned confusion at Daytona. Just as midget drivers found that it took a Meyer-Drake Kurtis-Kraft to win a race, so NASCAR *short-track* campaigners have found that it takes a Chevrolet to win a race. At short-track events these days, the question is not so much which car will win as which Chevy will win.

Unlike the midgets, however, the stocks, thanks this time to Detroit, just can't get too stereotyped. New models come out every year, and among the '57 models there's more than one make that intends to "do something about the Chevys." This ever-changing feature of the stocks is what

CONTINUED

TRENDS IN AUTO RACING continued

makes them so confidently enduring. Just think back—Hudson and Plymouth had their day, as did Oldsmobile, and now Chrysler, Chevrolet and Ford. The fact that the hottest make changes keeps the crowds guessing and, of course, coming back for more.

Many people around Detroit honestly think that stock car racing will develop into the top spectator sport in the country. It embodies the explosiveness of football, provides the enthusiast with ever-changing percentages and standings like baseball, and offers the speed and last-minute thrills of basketball. But just how long the stock car bonanza will last depends, to quite an extent, on how long Detroit continues to cooperate. Chevrolet general sales manager W. E. Fish has this to say on the subject: "Chevrolet currently is continuing to exploit stock car victories as a portion of its advertising. Possibly we will find the subject a bit hackneyed; from reading the present-day newspaper ads you might suspect that we started a major trend in automotive promotion." But Mr. Fish refused to comment on the duration of this current Chevrolet pitch.

Rumors about one make of auto (not a winner this year) are that it will storm the NASCAR tracks in '57. One factory bigwig confidently said that his product would do well in '56, still better in '57, and would be virtually unbeatable in '58. Long-range views like these certainly point to anything but the decline of stock car racing. Figuring Detroit in, it takes only one strong bidder to keep the others in the game.

At least 2 other important features are almost certain to result from the Detroit-NASCAR theme. Most important, oddly enough, is just what the current advertising claims: "a better, safer car for you." Auto racing *does* improve the breed, and the developments that Detroit has fostered primarily for racing will find their way into production; so you *can* have your cake (the fun of watching the races) and eat it too (a better car as a side product). The accessory tie-in is flourishing in the wake of the stock car whirl. Firms like Champion Spark Plug, Pure Oil, Purolator Products, Air-Lift, and others are joining in, and still more companies are getting on the bandwagon. Neatly enough, again, they'll get valuable publicity and you'll get improved, race-bred products.

Then, too, there is the possibility (more of a probability since the Corvette success at Sebring) that the Detroit-engendered stock car trend will blend with the international theme in the form of factory-supported sports cars in races all over the world. This seems (*Continued on page 73*)

A CLINICAL LOOK AT THE CLIMAX

THE YEAR 1955 saw the entrance of a new car on the sports-racing scene. This rather unorthodox machine bears the proud name of Cooper, and is the brainchild of John Cooper—of Surbiton, England—long famous as a designer of Formula III racing mounts. This car deviates radically from the usual Cooper practice in that it features a liquid-cooled engine instead of the usual air-cooled motorcycle unit mounted in the rear.

The prototype Cooper-Climax was developed only after numerous lengthy experiments in the road-holding and handling properties of a 1096-cc (66.9-cubic-inch) J.A.P.-engined Cooper, ballasted to the weight distribution of the proposed design. The engine of the final design is a Coventry-Climax of 1100-cc (67.1-cubic-inch) displacement, mounted in the rear. Its location allows for lower seat height and the opportunity for designing a car with a minimum frontal area. Cooper has utilized this advantage to the fullest, with a handsome design having a frontal area of 9.5 square feet, and an overall height of 34 inches from headrest to ground. Teamed with Ivor Bueb and Jim Russell (factory drivers), this car has managed to sweep the boards in competition. Its successes to date include 8 1sts, 4 2nds, and 1 3rd.

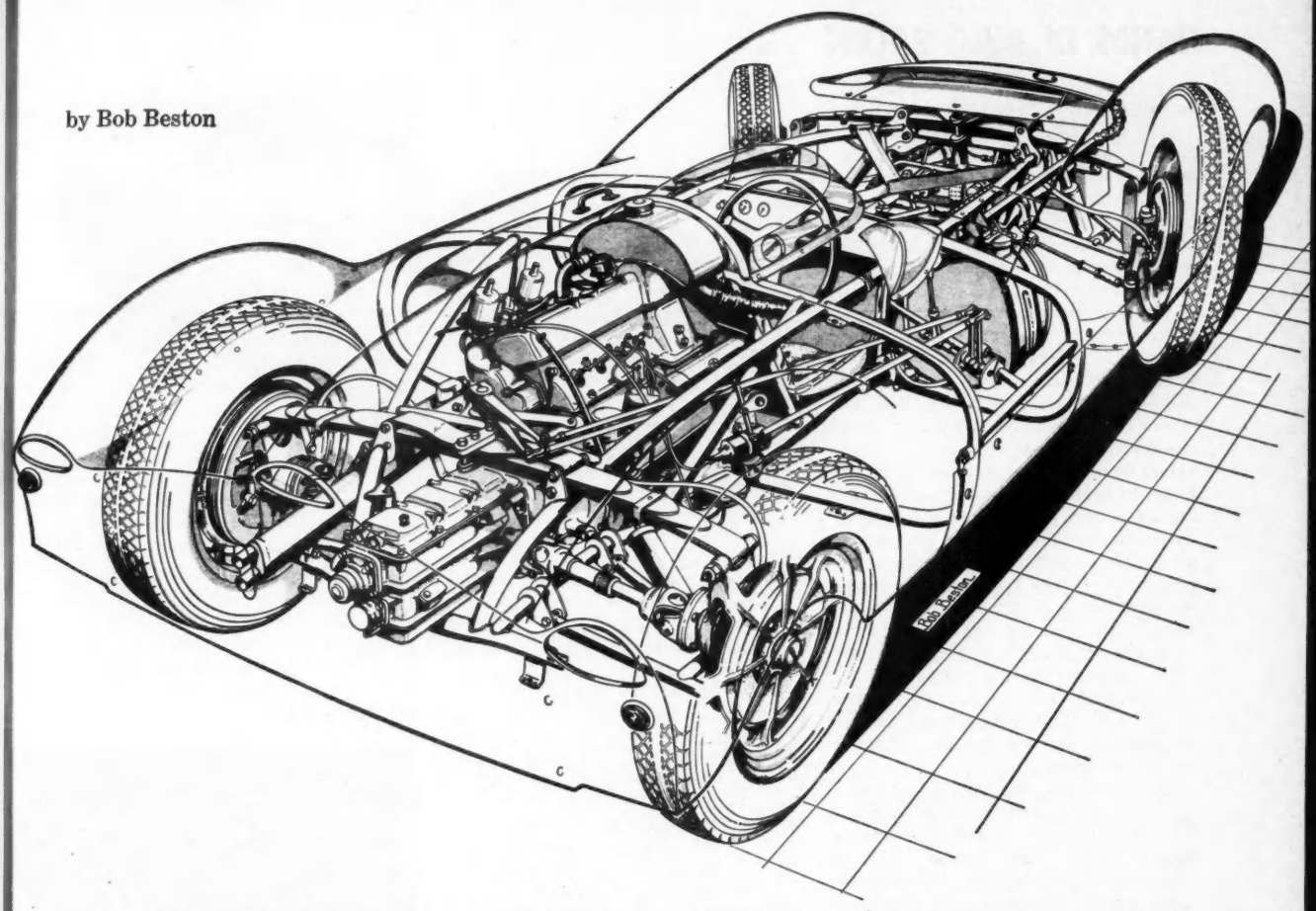
The chassis frame is of the now popular space-tube type and this robust multi-tubular construction results in an extremely rigid unit weighing a mere 65 pounds, complete with all mounting brackets. Longitudinal tubes of 1.5-inch diameter are welded to 2 elliptically shaped sections which cradle the driver's seat between them. The passenger seat is positioned to the left of the driver, outboard of the side member, which provides the very novel arrangement of a 2-passenger car with a centrally located driver. The tubular cross-members are of the same diameter, and wishbone anchorages are provided at each end of the lower longitudinal side members. As in previous Cooper practice, the suspension is fully independent all around and is the familiar transverse leaf and wishbone layout. Wheel movement at both front and rear is damped by Armstrong telescopic-type shock absorbers. The rear wheel bearings are mounted in cast magnesium housings, while the front king-pin carriers are fabricated from light sheet steel. Measured from the static position, both front and rear wheel deflection is 3.5-inch bump, and 2.5-inch rebound. Steering is carried out by a lightweight, helical-tooth, rack-and-pinion unit of Cooper design coupled with short tracking rods. Only 1.75 turns of the steering wheel are required to go from lock to lock.

Motive power is handled by the aluminum-alloy-block, 4-cylinder, single-overhead-camshaft Coventry-Climax unit, which delivers 75 bhp at 6200 rpm. The head is considerably canted to help form the wedge-shaped combustion chamber. This gives one the false impression of a tilted engine. The valves are inclined at 20 degrees and are operated thru tappets by the cam, which in turn is driven by a gear reduction and Weller-tensioned chain. The crankshaft is of the 3-main-bearing type. Wet-sump lubrication is employed, full capacity being 8 pints. The bore and stroke are 72.39 by 66.6 mm. (2.87 by 2.62 inches) with a stock compression ratio of 9.75 to 1. With a dry weight of 208 pounds, the engine shows a remarkably low figure of 2.78 pounds per bhp. At its present output this standard production engine has proved to be an outstandingly reliable unit.

The carburetion department is handled in a very capable manner by two S.U. semi-downdraft carburetors of 1.5-inch diameter which are fed with fuel by flex lines from one large distribution chamber. A belt-driven centrifugal water pump delivers 1800 gallons per hour at maximum engine speed. From an outlet at the rear of the engine, the coolant is pumped into the header tank and then is routed thru a pipe attached to the top frame-tube on the right-hand side, and finally into the top of the radiator. The coolant returns to the engine via a similar pipe fastened to the bottom left-hand frame tube. A 7.25-inch Borg and Beck single dry-plate clutch, hydraulically actuated, transmits the drive from the power unit to the transmission. The 4-speed Citroën gearbox has special Paris-made E.R.S.A. close-ratio gears in place of the standard type. A major difference is the complete lack of synchromesh on any of the gears. There are 3 differential gears available in ratios of 3.7 to 1, 4.0 to 1, and 4.5 to 1. The 4.0 to 1 ratio is used in calculating the overall crankshaft-to-axle ratios of 10.9 to 1 in 1st gear, 7.56 to 1 in 2nd, 5.17 to 1 in 3rd, and 4.00 to 1 in 4th.

Initially, trouble was experienced with the gearbox due to its positioning for drive from an engine in front rather than behind the axle, as Citroën originally de-

by Bob Beston



signed it. The gear shafts, which now revolve in the opposite direction to normal Citroën practice, caused the scroll oil slinger on the main shaft to pump oil from the gearbox into the clutch housing. This difficulty was remedied by replacing the oil-return scroll with an appropriate rubber oil seal. Also, new and harder selector collars have prevented the constant recurrence of jumping out of 4th gear. From the differential, the drive is transmitted to the rear-wheel hub-flanges thru the short, telescopic, Hardy-Spicer universal shafts. Gear selection is controlled by a lever of Ford Zephyr pattern which is located at an angle in the right-hand side of the cockpit. A series of levers and rods (chassis mounted) transmits the movements to the gearbox selector rods. The power unit and gearbox are mounted on 6 Silent-Bloc bushes, the rear 2 being used as a means of preventing sideways movement of the transmission unit.

Dual master cylinders operate the Lockheed 2-leading-shoe brake system. The brakes are 8 inches in diameter by 1½ inches wide. These brakes seem unusually small for the contemplated speed of 130 mph, but disc units are envisioned in the near future. The wheels are magnesium-alloy castings of Cooper design and are cast integral with the iron brake drums. The front wheels are fastened to the spindles by a single castellated nut, a method which facilitates extra speedy removal of the wheels, altho entailing the removal of a cotter pin. The fuel tank, of a light alloy, is cradled to the driver's right, and outboard of the bottom main frame member. Tanks of varying capacity can be accommodated, 8 gallons for short sprint events, and 14 gallons for races of 275 miles and longer.

Due to the lack of a driveshaft, as is required in conventional layouts, no difficulty was encountered in designing a very roomy cockpit. Not much, however, can be said for the passenger's side, where the unfortunate individual sticks out of the car at what must be quite an uncomfortable angle and is subjected to blasts of high-velocity air thru lack of a windshield on the less vital side. Otherwise, the body has been designed in accordance with the modern ideas of fairing and streamlining; with the exception of the bobtail it presents a fine example of aerodynamic beauty. The slightly concave tail panel naturally gives rise to the question, "Why?" Some venture to say that at top speeds the turbulence at the rear of the body would tend to create a relative vacuum, drawing more air past the rear brakes and tires thru the cooling ducts, tho destroying the true streamline form of the car. Others say that a short-tailed car presents less problem in transportation between races, by not requiring so large a trailer. You can pick your choice of reasons. We like the 1st one, and John Cooper has his, tho what it is may not be readily apparent.

With the exception of the passenger's door panel and the bellypan, the complete body is designed for quick detachment. The rear section of the body is secured by 2 spring-loaded catches and hinges upward to expose the powerplant and rear drive. The forward section operates in the same manner. The radiator, which is securely fastened to the forward portion of the body, hinges upward with it. The movements are accommodated by flexible water hoses attached to the inlet and outlet sides

TRENDS IN AUTO RACING continued

of the radiator. Cooling air reaches the radiator thru a forward duct. Behind the radiator is a V baffle which deflects half the air upward and out thru a slot in the body. The remainder is directed out thru the bellypan.

Mounted forward of the instrument panel, and above the driver's knees, is the spare wheel. It is cradled in a 3-piece sheet-steel mount, and is securely fastened in place by elastic cord. The battery is placed forward of the front suspension and inside the V deflector. Besides being quite accessible, its position helps in the weight and balance distribution of the car. For ease of entry and to comply with existing regulations, a 2-piece drop-down door, hinged on the lower edge, is located on the passenger's side. For carrying a passenger, the top section of this door slides down and inside the lower one. For competition use the upper section is raised, forming a tonneau cover and completely enclosing the passenger seat. A wraparound windshield protects the driver's compartment. This, together with the low seating of the driver within the car's profile, makes for a comfortable drive. In fact, were it not for the regulations, goggles would not be necessary, the driver experiencing little or no wind effect.

On the starting line with driver and 8 gallons of fuel aboard, the weight distribution is 44 per cent on the front wheels, and 56 on the rear. Racing weight is around 1098 pounds, while the dry weight amounts to 896 pounds, resulting in a weight-to-horsepower ratio for the car of about 12 to 1. Wheelbase is 89 inches; front tread is 45.5 inches, rear tread is 47.0 inches; overall height 34 inches, length 130 inches, width 57 inches; and ground clearance is 4.75 inches at the lowest point. With figures of approximately 150 bhp per ton combined with a particularly excellent aerodynamic envelope, this car has proved to be a very formidable contender for the crown of laurel leaves.

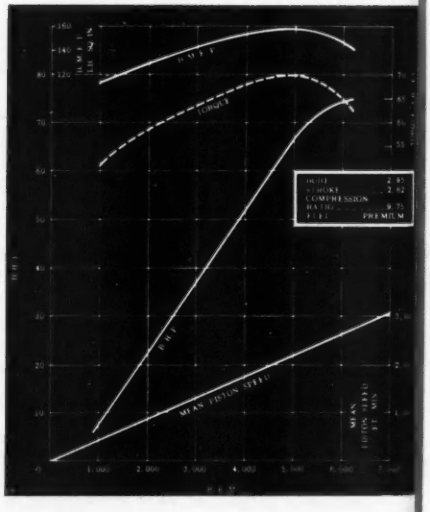
Cooper regards this latest factory car as a mobile test bed, and if it proves out as expected, a new Formula I Cooper-Climax will appear in the near future, carrying a 2.5-liter (152.6-cubic-inch) Coventry-Climax V8 engine. This will put Cooper in a class with Jaguar, Ferrari, Maserati, and the other big boys. Judging from the following list of new International Class G records set by the 1.1 Cooper-Climax at Montlhery, France, on October 17, 1955, John Cooper's 2.5 Cooper-Climax will be a very stiff competitor. The records are:

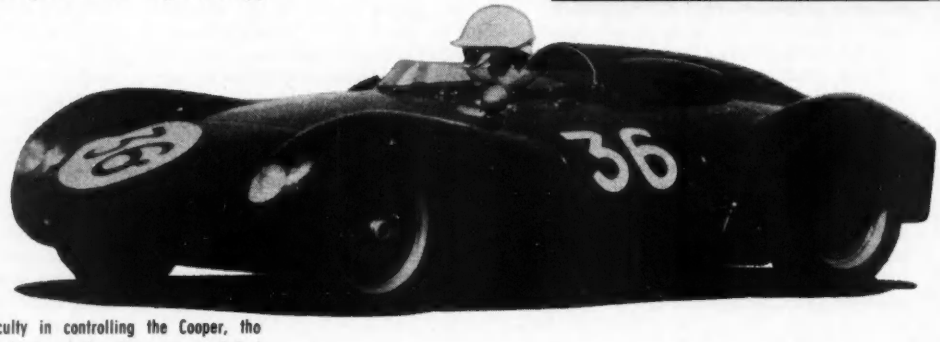
50 kilometers @ 128.27 mph
50 miles @ 127.73 mph
100 kilometers @ 127.36 mph
100 miles @ 125.86 mph
200 kilometers @ 125.37 mph
200 miles @ 118.35 mph
1 hour @ 125.34 mph
3 hours @ 115.26 mph
500 kilometers @ 115.30 mph
500 miles @ 112.88 mph
1000 kilometers @ 111.55 mph
6 hours @ 111.63 mph

A new course record of 101.79 mph was set during the standing-start run, the fastest lap turned during the record runs being 132.56 mph. During the entire record session, the fuel consumption averaged 35 mpg!

ALFRED WOOLF

Colin Chapman has, for several years, been producing a wonderful racing machine, the Lotus. The powerplant is usually a Coventry Climax engine almost identical to the Cooper mill, but front mounted. This is the Lotus Eleven Le Mans that ran at Sebring. For street use of similar models, a windshield and hardtop quickly replace the headrest. Graph is for Cooper.

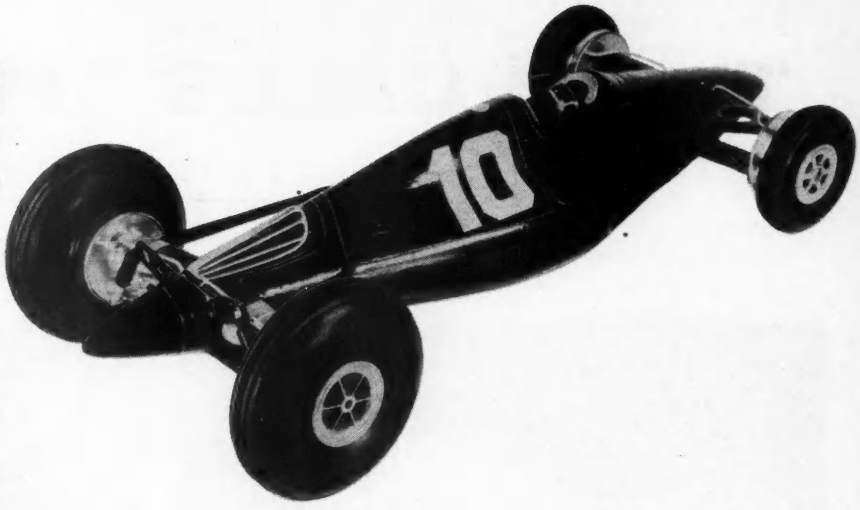




Drivers seem to have little difficulty in controlling the Cooper, tho they're placed rather close to the front and thus lose some road feel

A TURBINE FOR THE TRACK ?

by Paul Sorber



THE DESIGNER OF THE BLACK HAWK, Duane Dewey of Los Angeles, is an unhappy man. This is so mainly because of the current lack of U.S.-held, yet internationally recognized, world's records. Deciding to do something about it, he conceived this car with the intention of winning a Grand Prix race. It falls short of that goal, but it's a step in the right direction—meaning inventiveness.

A-frames sprung with torsion bars (A and B in drawing) in front and twin transverse leaf springs, a wishbone, and swing axles provide 4-wheel independent suspension. A radical attempt has been made to improve cornering thru use of the car's centrifugal momentum in a turn. The fuel tanks are part of the very high frame, and are located directly over the center of gravity to eliminate weight shifting as fuel is consumed. All mechanical components are suspended from, rather than resting upon, the frame.

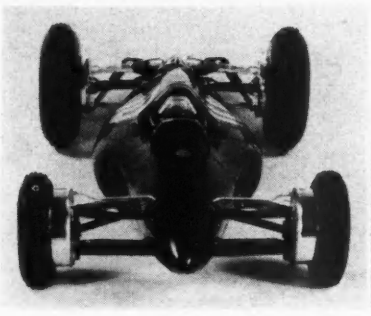
The power train is a lightweight gas turbine, driving a combination torque converter-sprag clutch transmission coupled to a limited-slip differential. An air compressor mounted on, and driven from, the differential is intended to be a supplement to the 4-wheel disc brakes.

Criticism of the design was obtained in interviews with race car builder Frank Kurtis and driver Henry Banks. The impracticality of a turbine, at least for the present, was their most important comment. Even tho Boeing has developed a lightweight turbine producing over 400 horsepower, it is not yet possible to overcome the poor acceleration, lack of engine braking, high fuel consumption, and explosive tendencies in an auto racing application, not to mention the expense.

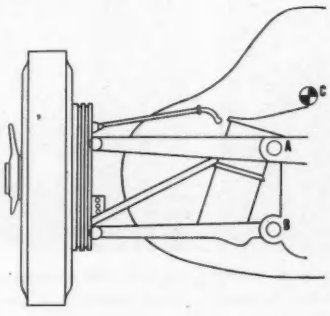
The transmission is a real big problem. Reducing 26,000 rpm while multiplying the infinitesimal torque to usable and convenient quantities is next to impossible. And, of course, weight and space are at a premium. As yet there is no solution.

Stopping a turbine car is all done with the brakes. Dewey has attempted to compensate for this by his use of a "2- or 4-barrel compressor with a valve that controls the size of the exhaust vent." But a unit big enough to stop the wheels at 150 mph, assuming a car weight of 2000 pounds, would have to be towed behind in a trailer.

The engine intakes are placed precisely so as to catch any dirt or foreign objects thrown up by the car in front, or by its own front tires when cornering. Just one rock and *blooey!* no engine, no car, and where'd the driver go? An envelope body is much to be preferred over this one, since much too much turbulence is caused by the wheels and suspension; very little can be achieved by aerodynamically improving this type body.



PHOTOS BY COLIN CREITZ



The best feature of the car is the theory that underlies the suspension design. Referring to the drawing below, when not turning the center of gravity of the car lies directly beneath the roll center (C) and on a level slightly below the torsion-bars (A and B), we hope. As the car commences to turn at speed, the center of gravity (and, of course, the car body) will swing toward the outside of the curve, transferring weight to the outside wheels. Simultaneously, the inner wheels are forced against the ground, and the wheels themselves are tilted toward the inside of the turn, somewhat like a motorcycle tilts. The rear leaf spring perches are affixed to torsion bar pivots, and therefore react in a similar manner to the front wheels when cornering.

There is a catch, tho. The center of gravity must be far enough below the roll center to provide a moment arm of sufficient length to produce the effect desired. Regrettably, the Black Hawk's center of gravity, in racing trim, is theoretically at about the same point as the roll center (C). In such a case, the car would have a tendency to roll over.

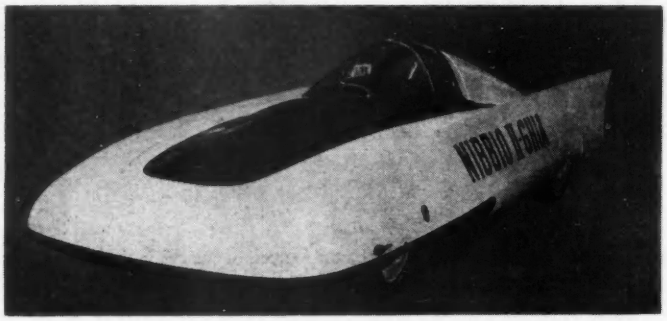
If the turbine is discarded in favor of a horizontally opposed "pancake" engine mounted in a frame designed specifically to lower the center of gravity as far as possible, the idea might work. Attention should be paid to keeping the track, wheelbase, caster, and steering control constant at all times. This poses a whole series of problems, not yet solved nor even considered in detail. Any ideas?

A Formula III car using a horizontally opposed twin motorcycle engine would be the least expensive test vehicle. However, you can go as big as you wish. Try on a hopped-up aircraft engine for size!

TURIN CALLS THE TUNE

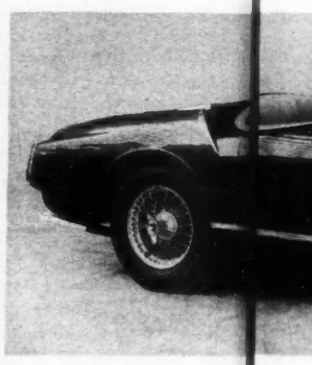
a photo story
by Gordon Wilkins

The big Italian show is always a styling prophecy. This year it gave Americans a look at their own cars to come



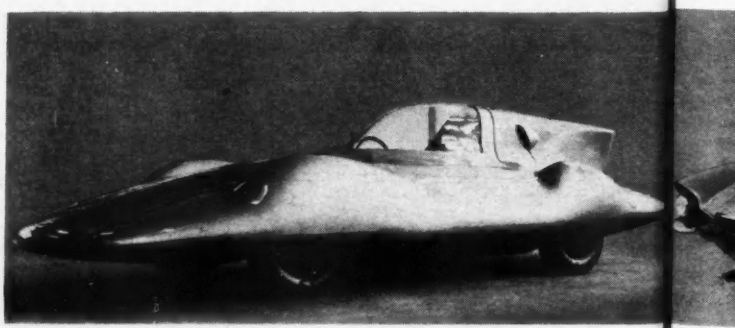
This small single-seater was designed specifically for Count Lurani's assault on the 350-cc class records. A Guzzi motorcycle engine provides the power, a Volpini chassis is used, and the beautiful bodywork is by Ghia

Another Ghia-built body, this is installed on an experimental Alfa-Romeo SS-3500 chassis. Like the Chrysler Dart, this design is a development of the Gilda turbine car project now in the U. S.

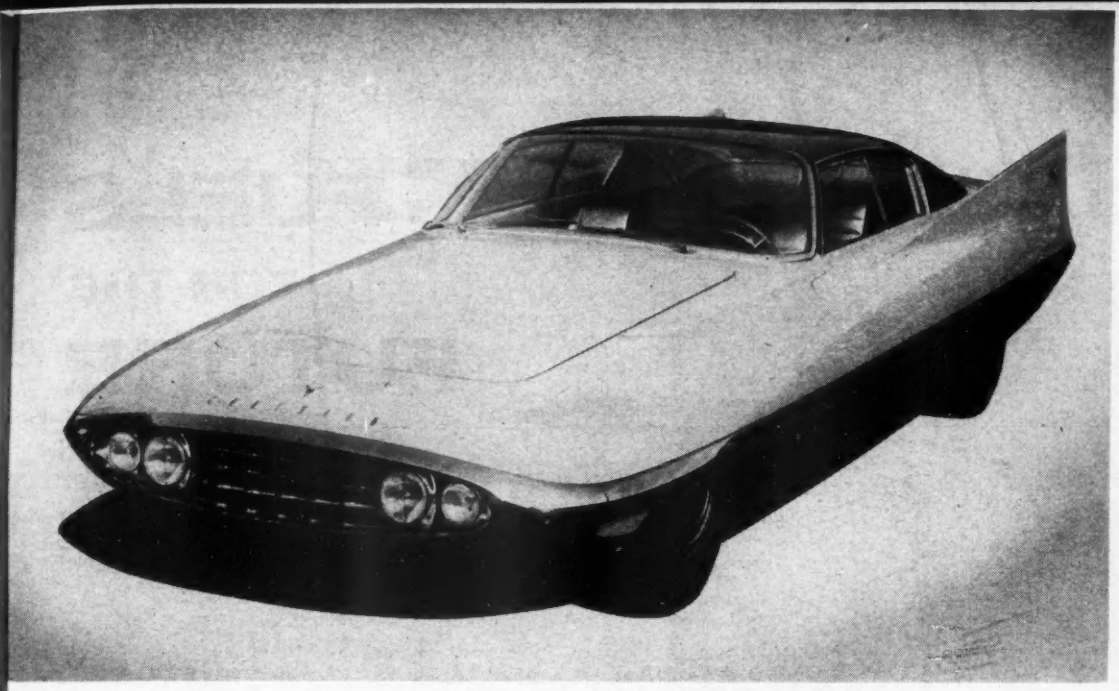


Another experimental Alfa-Romeo car, the Sportiva, has a body by Bertone. Car weight is only 2065 pounds. The light tubular frame has very good suspension: wishbones and coil springs in front, de Dion axle and coil springs in the rear. A 1900-cc (116-cubic-inch), 135-bhp engine is used with 5-speed gearbox

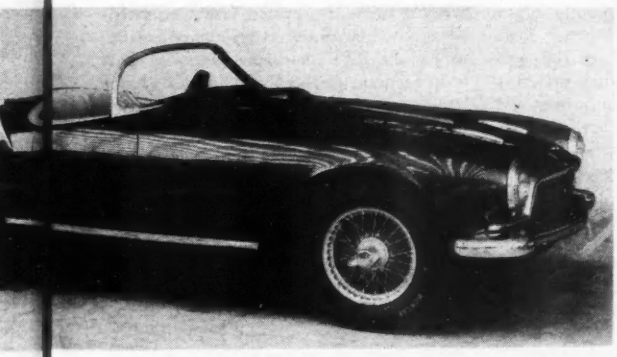
The "Palm Beach" coupe by Pinin Farina is hardly recognizable as being a Nash Rambler. The body is mounted on a specially low Nardi frame and reworked suspension. Head and taillights are enclosed in plastic bumpers



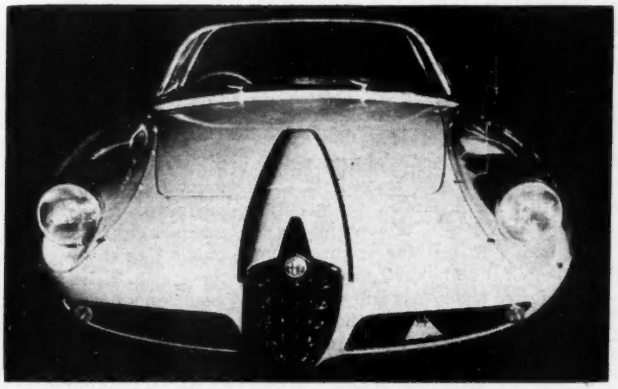
The Abarth-Fiat streamliner is destined for long distance world record attempts in the 750-cc class. Bored-out Fiat 600 engine supplies the push. Body designed by Franco Scaglione and built by Bertone



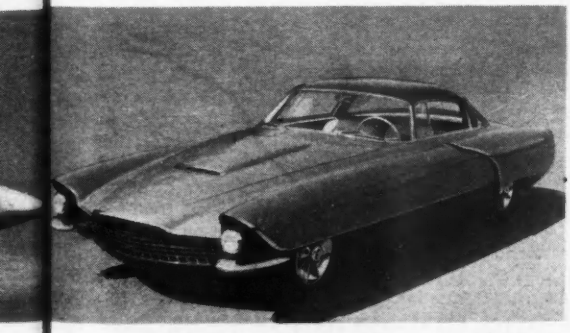
The Ghia-built Dart is an experimental Chrysler, basically. Wheelbase has been shortened 10 inches from the normal 126 inches. The front torsion bar suspension was moved to narrow the tread and allow nearly complete enclosure of the front wheels within the fender line.The Chrysler engine is a special fuel injection job of 300-plus horsepower. A 3-piece sliding metal top arranged to retract electrically will be fitted



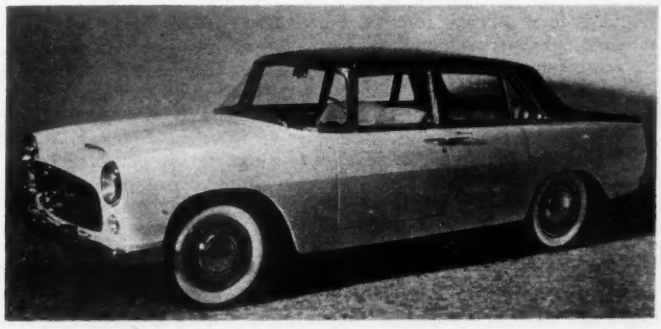
In only 17 days, Carrozzeria Touring built this superbly appointed green Superleggera convertible. The 2-seater body is on an Aston Martin DB-2-4 chassis. Rear airscoops do work



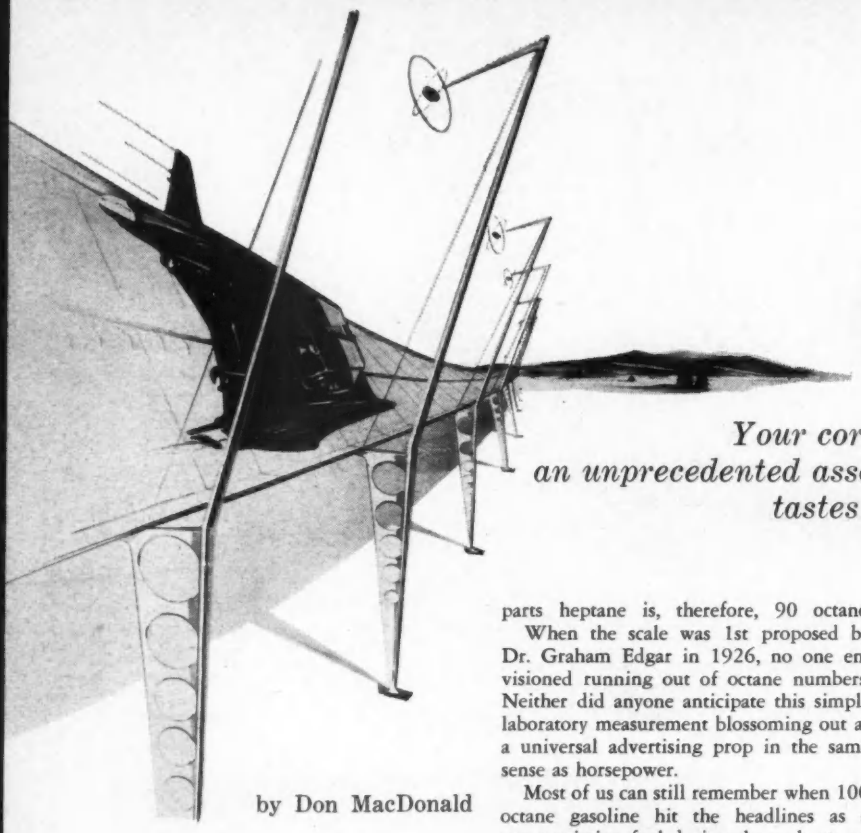
On a new Alfa-Romeo SS-3500 chassis, Pinin Farina placed this low-built and streamlined "Superflow" coupe. A transparent blue-tinted top is an unusual feature, as are the plastic cowls over the headlights. Pleasantly low hood line and fenders cut away to expose the wheels add distinction and utility to the design



This is another coupe built for Chrysler, with much help from Boano. Rear suspension is Bugatti-type reversed quarter-elliptic springs and roll bar. Finish is red and silver



Remember Farina's Florida (MT, May '56)? After refusing many large U.S. offers, he finally sold the design to Lancia. Renamed the Flaminia, it's scheduled for production this fall



FUELS FOR THE FUTURE

Your corner filling station will offer an unprecedented assortment to suit the varying tastes of tomorrow's powerplants

by Don MacDonald

LAST MONTH, we discussed engines of the future, or at least those types expected to be on our highways within the next 10 years. We reached the conclusion that the engine in the majority would be a 12.5 to 1 compression ratio, fuel-injected V8, reaching its maximum power output at 7000-8000 rpm.

High-priced luxury cars will whir down the highways powered by turbines (in combination with free piston compressors and without) as will respectable quantities of trucks and buses. In general, if you could sleep like Rip Van Winkle for the next decade, you would not be too startled by the vehicles you saw upon awakening.

The same holds true for the fuels you would buy, except that each filling station would have a separate bank of pumps serving a liquid very akin to kerosene to its turbine customers.

Best-educated guesses in refinery and automotive circles seem to settle on a 10-years-from-now octane requirement (for V8s) of about 105. Before the hackles of knowledgeable readers start rising, we had best explain. Octane number as such technically cannot go above 100. It is an arbitrary scale by which production fuels are rated in comparison with a blend of iso-octane and heptane. A fuel which has the same anti-knock characteristics in a single-cylinder, standardized test engine as a mixture of 90 parts iso-octane in 10 parts heptane is, therefore, 90 octane.

When the scale was 1st proposed by Dr. Graham Edgar in 1926, no one envisioned running out of octane numbers. Neither did anyone anticipate this simple laboratory measurement blossoming out as a universal advertising prop in the same sense as horsepower.

Most of us can still remember when 100 octane gasoline hit the headlines as a super aviation fuel during the early stages of World War II. Gasolines better than 100 octane were developed as the war progressed and they were rated in terms of "performance numbers," indicating the relative power that an engine can develop safely with equal knocking tendency. For example, 130 performance number fuel means that the engine will develop 1.3 times as much knock-limited power as it would on a fuel of 100 performance number. This term never caught on with the public, any more than torque has done so as a measure of engine performance.

Petroleum marketers, as we write, are wrestling in mighty conferences on how to rate their forthcoming gasolines, some of which are already uncomfortably close to the 100 octane barrier. It seems sure that they will not attempt to stuff a new term, such as performance number, down the public throat; instead, some mathematical legerdemain will be used to extend the octane scale beyond 100.

The industry is spending billions on new equipment to gird itself for the forthcoming 100-plus octane age. Surprisingly, little companies like Detroit's Speedway Petroleum Corp. and Leonard Refining in Northern Michigan have the edge on most others in installing the new equipment, tho Esso Standard will soon offer a "Super" grade (making it their 3rd product).

Typical is Speedway's new Rexforming unit. If properly supported by the rest of the refining operation, this could produce a gasoline of 101 octane *before the addition of tetraethyl lead* (TEL). Given a reasonable degree of lead susceptibility, octanes well beyond the forecast requirement are easily possible within the legal TEL limit of 3 milliliters per gallon.

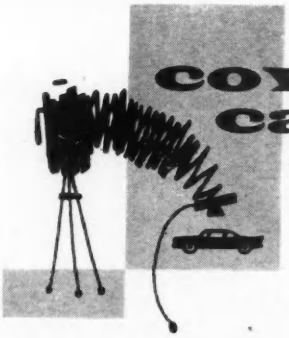
Another approach to salvage existing blends (and refining equipment) would be to agitate for raising the legal lead limit to 4.6 milliliters, as now used in some aviation fuels. However, a limit of 3 milliliters for ground use is an agreement between the TEL marketers and the Surgeon General of the United States (based on concentrated TEL's extreme toxicity) in 1926, and the present incumbent is unlikely to change it.

Perhaps the biggest change to come in the next 10 years won't be in the fuel, but in the filling station. Sun Oil Co. has already scooped the industry with its experimental "custom blending" pumps installed in stations around Orlando, Fla.

This complex but highly practical fuel dispenser solves the age-old problem of the fellow with an octane-tolerant car, such as the current 6-cylinder Chevrolet, having to pay for a super fuel of use only to the relatively few owners of a critically high-compression V8.

According to Frank R. Markley, vice-president in charge of Sun marketing, "The trend toward higher compression ratio engines is a challenge to the oil industry to develop greater flexibility in the production of gasoline—to meet the higher requirements of the automobiles of the future—but, at the same time, to relieve the owner of an older car from the necessity of paying for more quality than his engine requires."

The new pump dispenses 5 grades of gasoline, ranging from regular Blue Sunoco at the regular price to a super blend called "250" with an octane rating higher than 100 and (*Continued on page 52*)



cover car BUCKEYE BEAUTY

PHOTOS BY HUBE BRIERS

LIKE MANY OF US, Jack Aberth, of Copley, Ohio, had always wanted a car that was really different. But until the advent of the '53 Studebaker hardtops, he had never seen one that he thought would take customizing to his satisfaction. Here's what Aberth's own designs led to:

All chrome came off; only bright trim to remain was a few stainless steel strips around windows, etc. Solenoids, controlled by buttons on the dash and under the gas filler flap, operate doors and rear deck. Chiseled off just under the rain gutter in front and about 2 inches below the window at the rear, the top now fits snugly into place for winter. Convertible-top pegs in front and 6-inch bolts at the rear hold it steady. Rear quarter windows slide in and out when the cloth top (an emergency measure only, for sudden summer showers) is up. Both front and rear fenders grew 4 inches, and original lights were frenched. Aberth announces he was there 1st (by about a year) with the Chrysler-like fins. They were hand formed from 20-gauge steel and welded in place.

The new grille line, which oddly enough makes the car look more like other Detroit products than it did in its original state, consists of a half-inch solid rod, bent and welded around the lights and across the front end. Gold-lacquered, expanded metal forms the grille itself, with the license visible behind it. Buick bumper tips protect the front fenders. Coral and white Naugahyde covers the interior, including the padded dash. **Moorehead Bros., of Akron, did the customizing.**

drivescription

SAAB 93

a photo story
by Joe H. Wherry

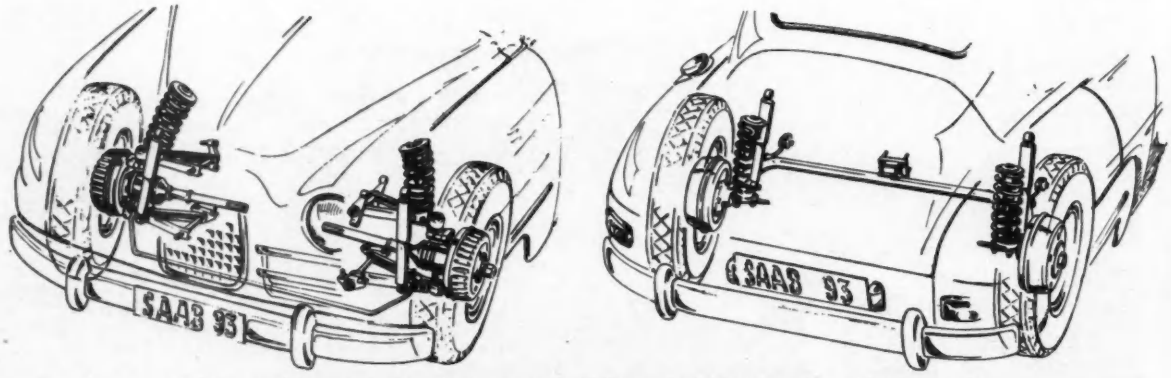
THE REMARKABLE and well-deserved popularity of the Volkswagen has made it difficult to assess the chances of a newcomer denting, much less cracking, its wall of success. On the other hand, we've had our ear banged many times by friends who felt themselves becoming susceptible to the practicality and downright fun of owning a small economy car. While admitting the virtues of the Nordic bombshell, they flatly stated that its beetle-like lines failed to send them enough to sign on the dotted line.

Personally we'd be proud to have one in our garage, but if Svenska Aeroplan AB of Linköping, Sweden, have their way, the advent of the sleek new Saab 93 is going to turn a lot of heads. It was doing so as this was written in New York's new City Coliseum. International Sales Manager Arne Rydberg and Chief Engineer (for cars) Gunnar Ljungstrom were listening wisely for the pro and con comments from those who stopped to examine and sit in a cream-colored 93.

Several days before the show opened I was able to spend the better part of 2 days in, around, and under a well-broken-in Saab with no one breathing down my neck. Starting out from Manhattan's west side I 2-stroked my way out into Connecticut. The tank was topped to begin with. Then followed 97 miles of hard driving (I was told to be hard on the accelerator and I was—cruising is safe at top speed due to fairly low piston speed). A 2nd topping up checked out to 32.1 miles per gallon of regular gasoline spiked with ½₅ of SAE 40 non-detergent oil. A later stretch of parkway cruising at a steady 50 mph turned in the remarkable mileage of 37.3 to the gallon.

Excellent streamlining worked out in Saab's own ultra-modern wind tunnel (Saab is Europe's largest single manufacturer of jet aircraft and the mainstay of Sweden's air force, being the 4th largest on earth) reduces wind noise; road noise is less than in most cars built on the integral body-chassis or unitized principle. Perhaps the reason for this latter-mentioned happy virtue is that the underside is an almost unbroken flat surface, there being no driveshaft or conventional frame members to induce their usual share of distracting resonance.

A rain squall—a hard one at that—proved the ability of the electric wipers,



Coil springs, well disposed laterally, and telescopic shock absorbers are used both front and rear. Front suspension is by rubber-mounted transverse links assisted by a torsional stabilizer. U-shaped rear axle assumes role of combining best features of rigid axle and torsional control. Drive is thru front wheels and bite is good; traction impressed us during rain

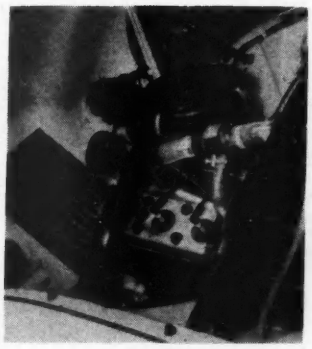
Short-radius, 90-degree dirt corner (far left), was approached at 35 miles per hour; only braking was quick downshift to 2nd. Just to complicate things, this corner had to have reverse camber

Photo of children is hardly fair, since 3 middle-sized adults can sit comfortably in rear. Rear compartment has high-quality tools, seasoned and painted plywood panel to cover the spare; rear seatback comes out

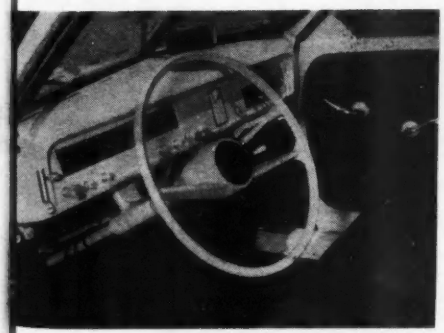
and the flat divided windshield presented no obstacles to efficient cleaning and retention of top-notch visibility. Incidentally, one cannot see the right front fender, nor is over-the-hood visibility quite the best available, but comfort and safety factors should make this car a "must try" on the list of anyone who wants sports handling plus a ride that never spanks the driver or his passengers.

A solid U-shaped rear axle, actually a variation on the trailing link type, has replaced the former torsional suspension system; coil springs and direct-acting telescopic shocks provide remarkable stability and a near total absence of rear end sway. Saab's philosophy, as evolved since they turned out their 1st prototype car in 1946, is to provide the least possible unsprung weight and deliberate understeer. Since the drive is by the front wheels thru a swing-type axle with the universal joints mounted close against the engine and transmission package, the normal situation relative to road traction and feel is considerably altered, tho hardly to a revolutionary extent. With 1 or 2 persons aboard, the front vs. rear weight distribution is about 58 to 42 per cent. But, while the rear wheels are hung on a rigid axle and are at least theoretically always at right angles to the ground, the front wheels are able to react to direction and surface independently of each other. Thus, the greatest amount of "give" on a sharp and fast corner occurs up front with what amounts to variable camber netting almost complete absence of self-steering. This is true even when the brakes are applied hard in the middle of a corner; the steering, by rack and pinion, never becomes heavy or clumsy under such conditions.

Not alone in this precise and comparatively foolproof handling, the Saab engineers have no doubt benefited from the Panhard, DKW and others. On a rough strip of gravel road where we conducted handling experiments, this good behavior was even more noticeable; unable to make the rear end sashay or misbehave, we deliberately induced (*Continued on page 58*)



Hood opens forward; grille features quick warm-up curtain (shown here at half-mast) controlled from dash. New tilted engine has 3 cylinders, 4 main bearings of ball design. Rods revolve about double-row roller bearings. Such details should mean extra-long life

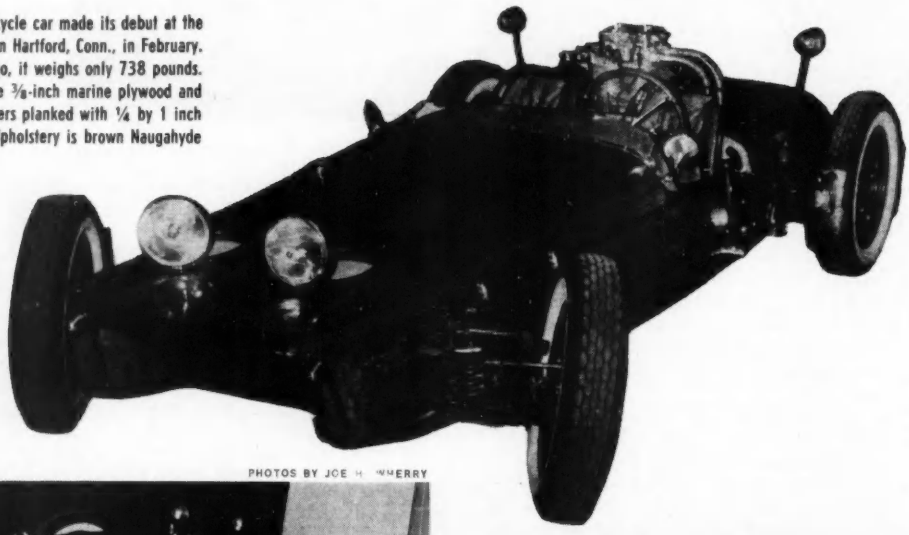


Wire coil around steering column is horn button wiring. Three-speed shift lever and turn signal switch are both on right side. Upholstery is plastic over foam

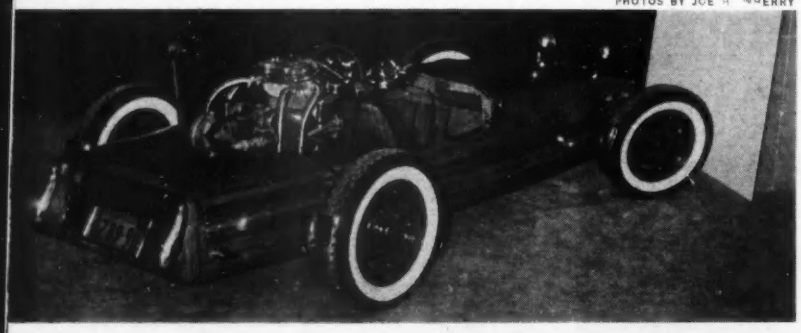
Bruce's Buckboard

2 WAYS TO GET A

This modern cycle car made its debut at the 6th annual Autorama in Hartford, Conn., in February. Ready to go, it weighs only 738 pounds. Body bulkheads are ⅜-inch marine plywood and 1 by 2-inch oak stringers planked with ¼ by 1 inch mahogany strips. Upholstery is brown Naugahyde

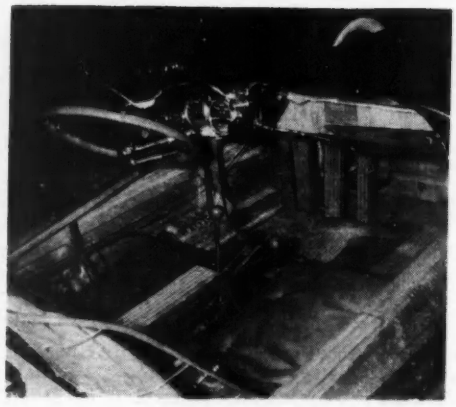


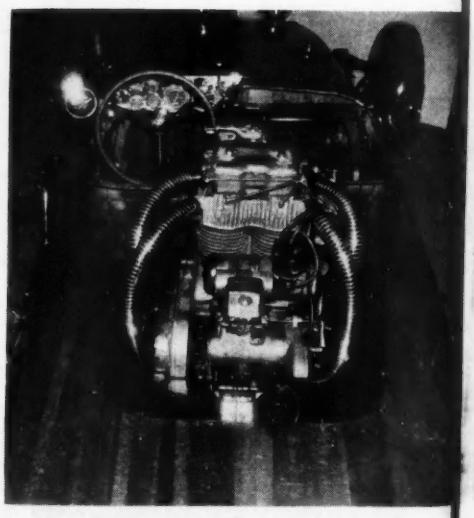
PHOTOS BY JOE H. [illegible]WERRY



Engine is Ariel "Square-4" motorcycle mill with chain drive to left wheel only. Frame is from 4-CV Renault that was wrecked. Starter motor provides power in reverse. Right headlight turns with wheels, left does not; both retract from control in cockpit. Spare is bumper

Pedals are, from left, footrest and dimmer, clutch, brake, and accelerator. Levers between the seats are for electrical system, headlight position, and starter. Shifting is done by levers left of driver and outside car. Note basket seats





With 61 bhp at 6500 rpm, top speed is over 90 mph. Car could be built on any number of U.S. and foreign frames, for as little as $300. Designer Don Bruce now has plans and brochures illustrating construction procedures for the do-it-yourself crowd. Don Bruce's address is 235 E. 109th St., Bronx, N.Y.

Homemade Thunderbird

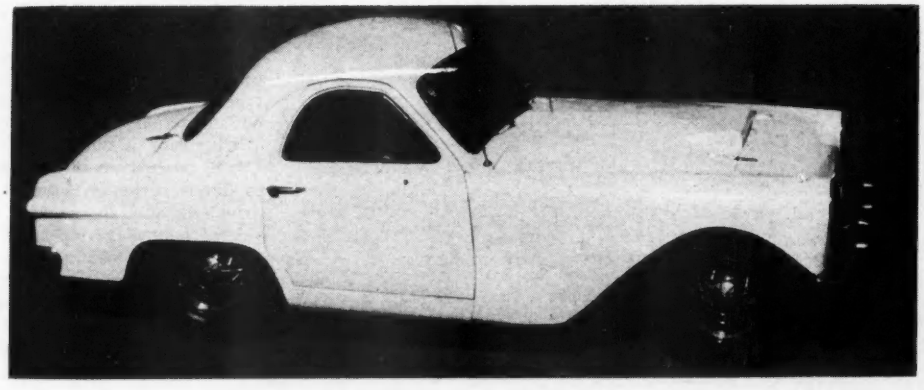
A PERSONAL CAR

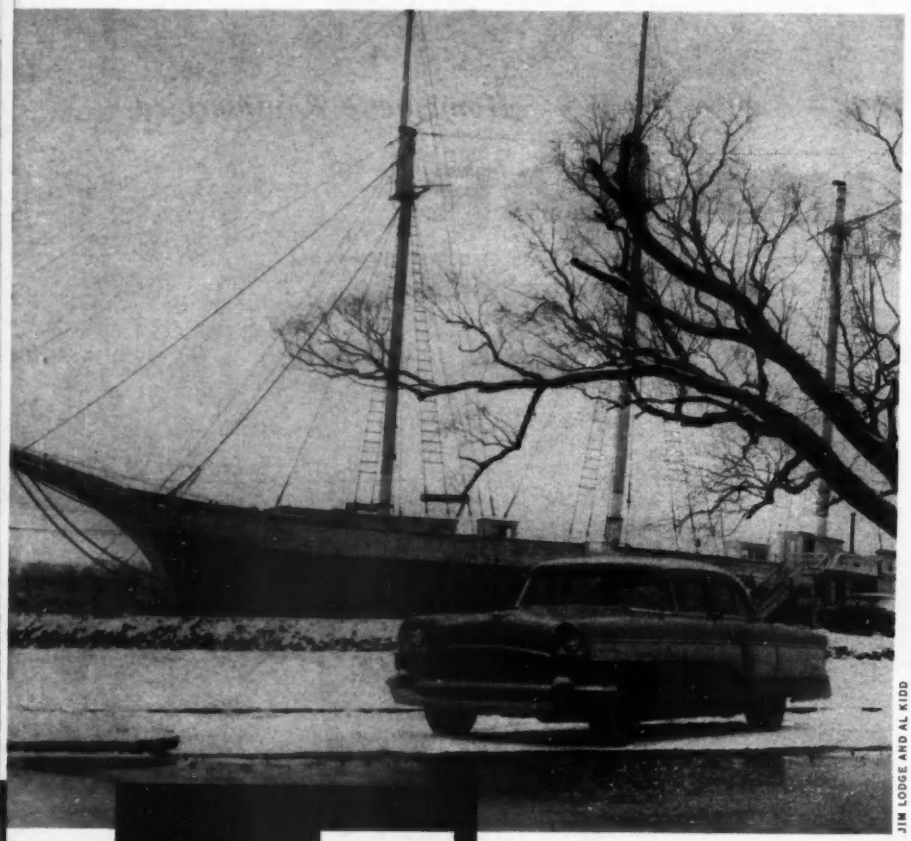
Since duties on cars assembled outside of Mexico boost the price of a Ford Thunderbird to $7000, Alberto Del Campo decided to build his own from a '49 Ford 4-door sedan. He shortened the chassis to a 102-inch wheelbase, moved the engine back 18 inches, and chopped the driveshaft to fit. Coupe at right below is Special entered in last Pan-American

PHOTOS BY JORGE ROSADO

Suspension modifications consisted of replacing the stock front springs with shortened Mercury coils, and using a Hudson shock absorber on each wheel. The front fenders and hood were hammered out of sheet stock, and a grille hand cut from a solid sheet of ⅛-inch steel, chromed

Body was sectioned and channeled to lower the car over a foot in height, front firewall-windshield unit was joined with the rear window-turtledeck section. Front and rear doors were cut in half and welded together, after the body section slice had been removed. Paint is Arctic white





JIM LODGE AND AL KIDD

drivescription '56 Clipper

A GADGETEER'S DELIGHT was our Clipper Custom sedan, with pushbutton Ultramatic control (optional), self-leveling torsion bar suspension (standard on all Clippers this year), and limited-slip differential. A couple of hidden switches under the dashboard worked the automatic car levelizer and electric door-locking device (see last month's MT). The car also had power steering and brakes.

P E R F O R M A N C E

	'56 (275-bhp engine)	'55 (245-bhp engine)
ACCELERATION	From Standing Start 0-30 mph 4.1 0-45 mph 7.2 0-60 mph 11.3 Quarter-mile 18.3 and 77 mph	From Standing Start 0-30 mph 4.0 0-60 mph 11.9 Quarter-mile 18.7
	Passing Speeds 30-50 mph 4.5 40-60 mph 5.2 50-80 mph 12.1	Passing Speeds 30-50 mph 4.6 50-80 mph 13.9
FUEL CONSUMPTION	Used Mobilgas Special Stop-and-Go Driving 13.0 mpg highway trip average 9.9 mpg city driving average 11.4 mpg tank average for 455 miles	Used Mobilgas Special Stop-and-Go Driving 11.8 mpg over measured course 13.2 mpg tank average for 938 miles
	Steady Speeds 19.7 mpg @ 30 17.6 mpg @ 45 14.9 mpg @ 60 12.4 mpg @ 75	Steady Speeds 19.1 mpg @ 30 18.7 mpg @ 45 15.8 mpg @ 60 12.9 mpg @ 75
STOPPING DISTANCE	158 feet from 60 mph	151 feet from 60 mph
TOP SPEED	Fastest run 109.2 Slowest 105.3 Average of 4 runs 107.1	Fastest run 104.4 Slowest 102.9 Average of 4 runs 103.3

Its recontoured combustion chambers give a 9.5 to 1 compression ratio. Long-reach sparkplugs are new, as is a revamped 4-barrel carburetor (Clipper Super and Deluxe have 2-barrel carbs) which keeps the secondary throttle from opening until the engine is revving high enough to accept the added fuel mixture.

Clipper's electrical transmission control lived up to its claims: It was easy to shift as touching a typewriter key, refused to engage REVERSE or PARK over 5 mph, automatically went into PARK position when ignition was turned off regardless of gear engaged; but it also echoed some fears we voiced when it was introduced. With the car parked on a grade we suddenly found ourselves lacking all gears. We pushed button after button, regained gears mysteriously after about 5 minutes of waiting.

Our troubles, say Packard engineers, could have been due to a wide combination of ills. It was a wet, slushy day, and it's possible that the underside wiring had shorted out; or it could have been just a loose wire at one of the many junctions between the buttons and transmission. Whenever there's a short circuit, a heat-sensitive circuit breaker will separate. When the condition clears itself, the coupling returns to normal.

Did you ever feel that you were about to break off the shift lever trying to pry an automatic transmission out of PARK on a steep hill? Ultramatic's electrical system now takes this battle off your hands, and the energy required to pop the parking pawl can overload the electrical system. If this was our trouble, the circuit breaker may have blown, then rejuvenated itself for a successful shift.

Compared with Chrysler Corp.'s cable-operated, left-hand, mechanical pushbuttons, Ultramatic's setup is in a more natural position for this generation of right-hand shifters. But its size and its position also obstruct part of the dashboard. Chances are this 1st-year location will be changed, or the instrument panel will undergo restyling. With any change in position should come a mechanical override control outside the transmission housing, providing at least one forward gear.

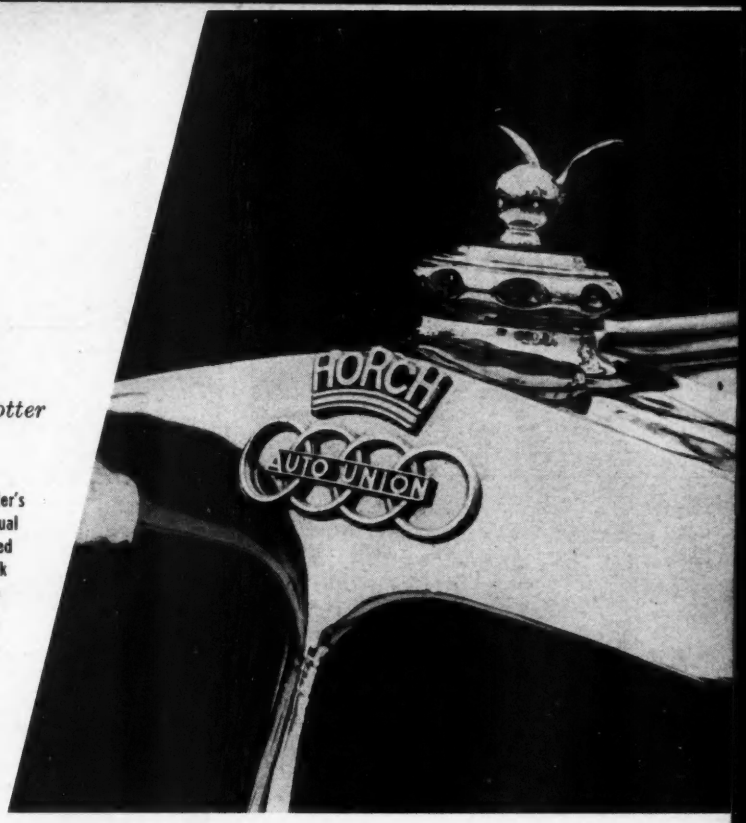
In years to come, we'll probably be the 1st to look back and laugh at our criticism of a device that you can't get out and get under to fix on the spot!

Ultramatic is unchanged in operation: DRIVE range starts off in low gear, shifts to torque converter, from there to direct drive (converter locked out); HIGH is considered normal driving range, doesn't use low-gear start feature, and doesn't have throttle kickdown to low gear as in DRIVE. In both ranges you can downshift into the "intermediate" torque converter range from direct drive for passing power.

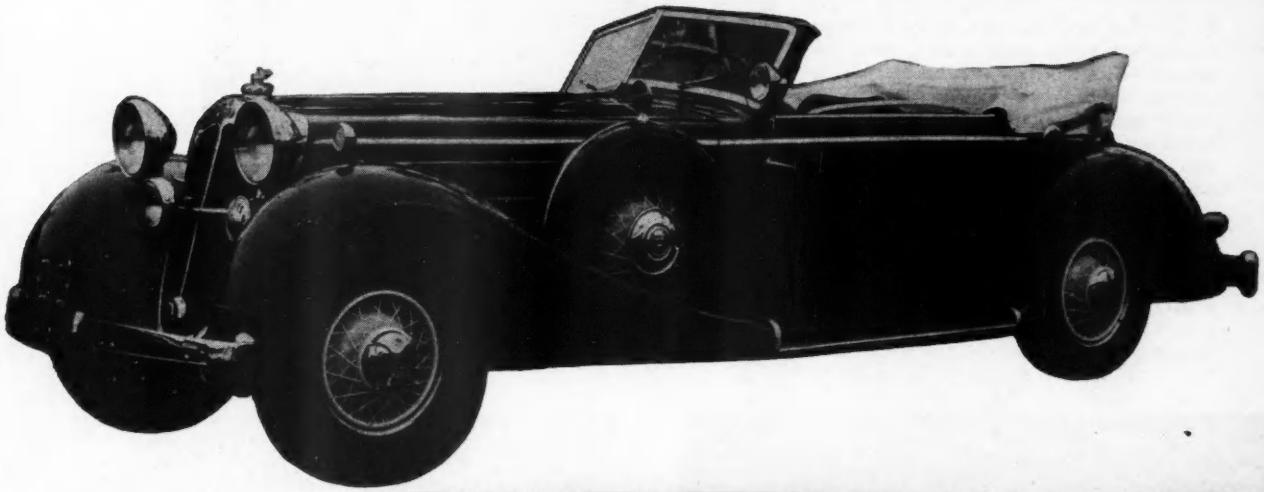
You now get slightly higher car speeds in low gear when you start off in DRIVE. An 85-pound (*Continued on page 58*)

Classic CONSCIOUS

a photo story by Jim Potter



A classic product of the 3rd German Reich and a favorite car of Hitler's Schutzstaffel officers, this 1937 Auto-Union Horch abounded in unusual features. Its overhead-cam straight-8 engine is coupled to an 8-speed transmission with 2 reverse gears which were very handy for quick retreats. Now owned by Florence Wasson of Oakland, Calif., the 5-passenger sport convertible has a 138-inch wheelbase and bends the scales at a ponderous 5840 pounds. The Horch rear axle is of dual-universal-joint construction very similar to a de Dion, and there is a separate hydraulic jack at each of the 4 wheels. The engine displacement is approximately 305 cubic inches and developed well above 100 bhp when new; the crank had 10—yes, 10—main bearings! Horch merged with 3 other firms in the early '30s to form the now legendary Auto-Union



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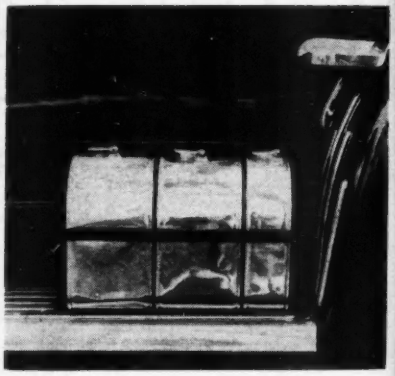
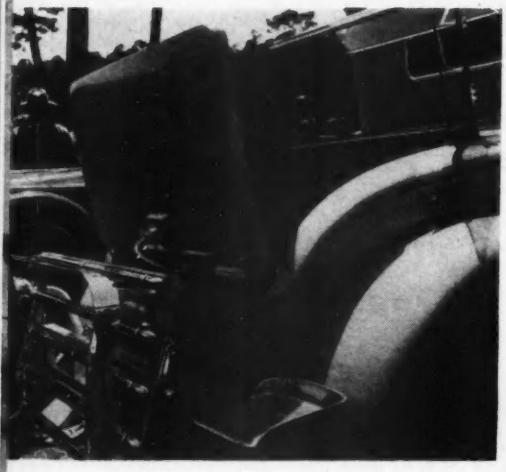
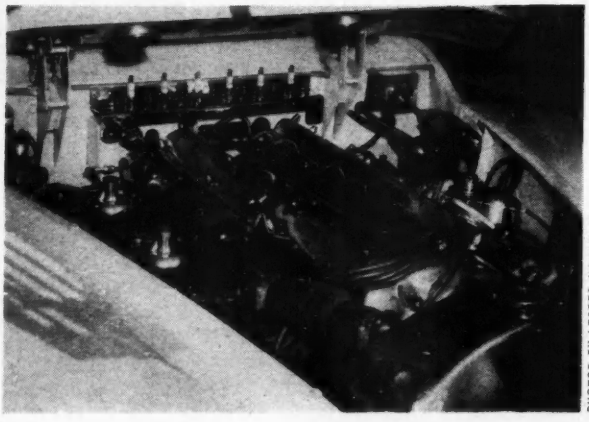
Classic CONSCIOUS

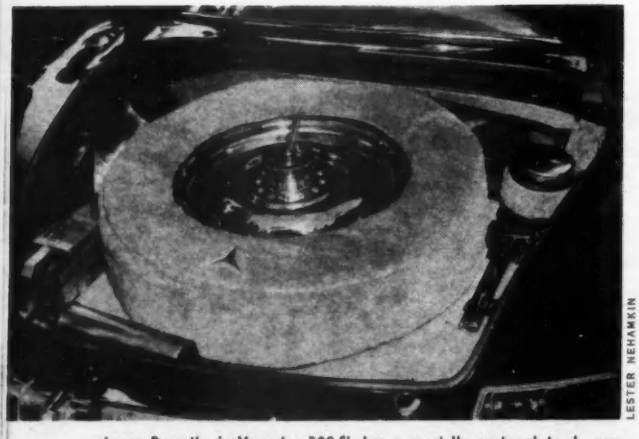






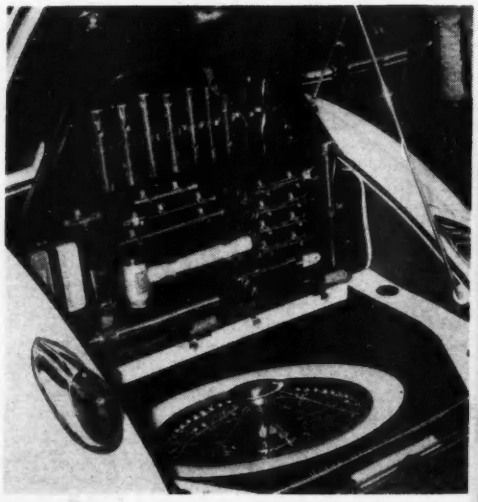
PHOTOS BY LESTER NEHAMKIN

The '30 Packard Model 7-40, above, displays its luxurious rumbleseat with separate windshield and windwings. Not shown are the leather armrests which fold down into the seat recess; also, the rear deck's broad expanse remains unbroken because of the concealed latch mounted behind the front seat. The '34 Rolls-Royce Phantom II Continental sedan, at top, is distinguished by the fire-engine-like gearshift and emergency brake levers, done up in dazzling chrome. You could break a leg on them while climbing in and out, but apparently L. Ross Sine, Los Altos, Calif., likes to live dangerously. Gas, oil, and water cans of polished aluminum rest in John S. Lewis' 3-seater 1930 Duesenberg Model J boat-tailed convertible; the 3rd passenger sits alone in his own private rumbleseat, surrounded by chromium. Aluminum body is by Murphy of Pasadena, Calif.

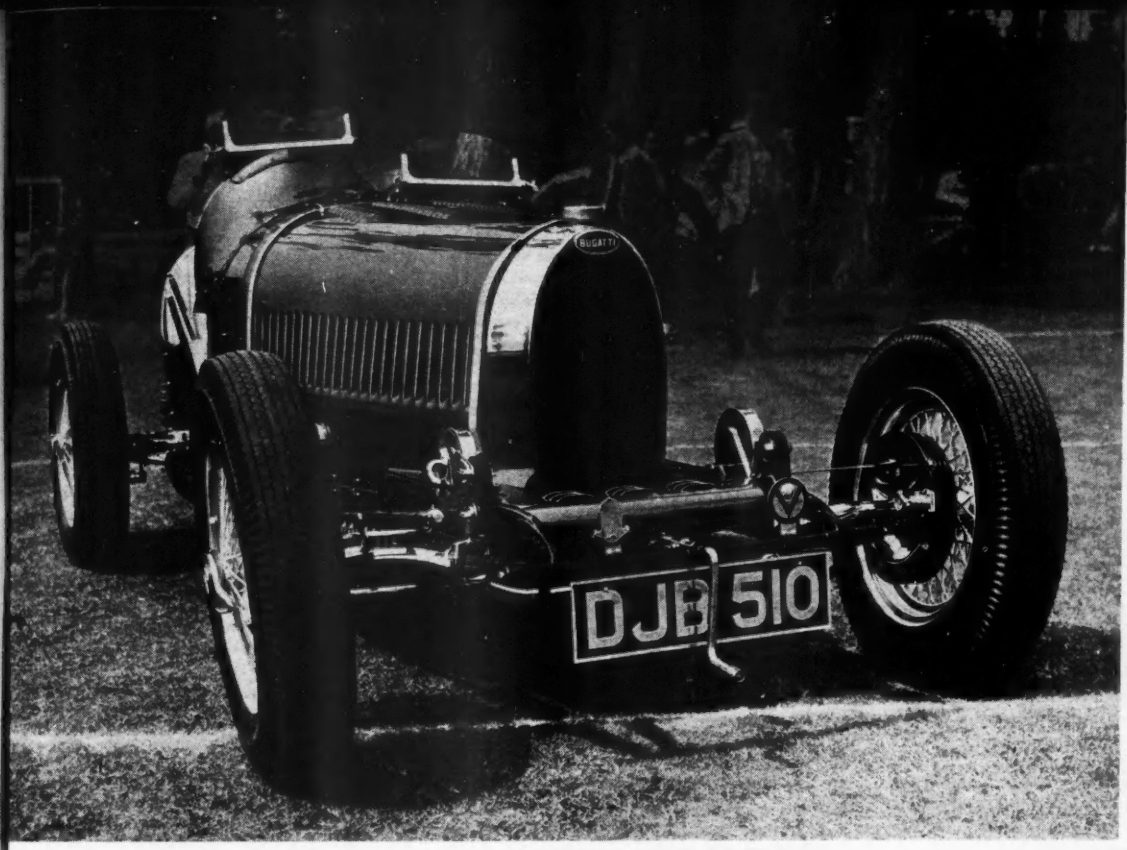


LESTER NEHAMKIN

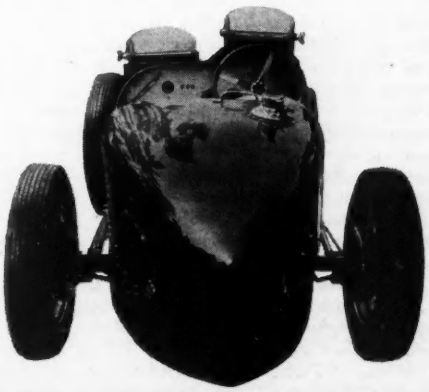
Lance Reventlow's Mercedes 300-SL has a specially equipped trunk, now as jewel-like as the rest of the car. Spare is covered with heavy cloth

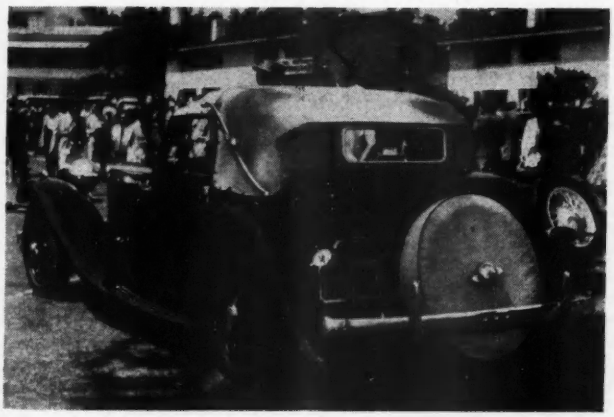


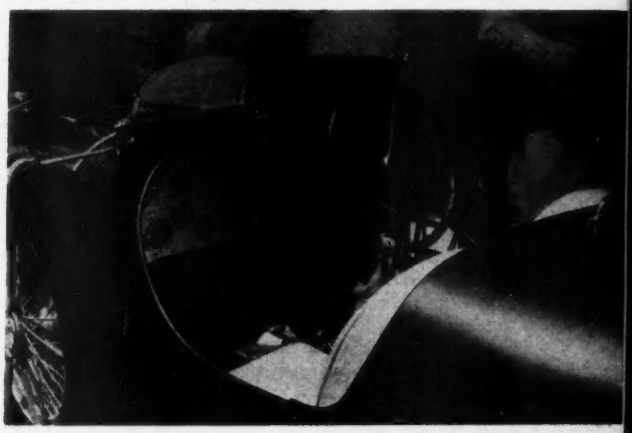
Andy Anderson of Menlo Park, Calif., ran out of things to do to the exterior of his '55 Jaguar XK-140-MC, resorted to making the engine and trunk compartments glisten. Car was clocked at 137.29



One of the greatest automobiles of all time, this 1930 Bugatti Type 37 Grand Prix roadster was the overall winner of the Pebble Beach Concours d'Elegance on April 21st. It's been rebuilt to the last nut and bolt and painted Bugatti blue to contrast with the cream upholstery. The owner, Dr. Milton R. Roth of Long Beach, Calif., is a man to be envied. The 4-cylinder Bug seats 2 and features an extremely narrow radiator and interesting boat tail. Brakes are cable operated. Directly below is an extremely rare (only 16 of this type were built) 1936 Swallow convertible cabriolet, powered by a 6-cylinder engine. Swallow started out building motorcycle sidecars, then gradually entered the automotive field with some very attractive and lively cars. In 1932 the 1st SS model appeared. Tho performance was excellent, the SS series was never claimed to be a true sports car, and it was not intended as a racing car either. The frame members on these cars passed under the rear axle, and very large friction shock absorbers were used. The SS-90 was the 1st Jaguar, a name now famous







CLASSIC Comments

by Robert J. Gottlieb

Classic Car Editor

AS TIME GOES ON, certain borderline cars are either accepted or rejected as classics. The result leads to that fertile field known as the semi-classics. Many consider some models of the Hupmobile semi-classic; others consider these same models special interest. Ownership of borderline cars can yield almost as much fun and pride of ownership as possession of a true classic. Joe Grafmyer of Denver, Colo., owns a 1933 Hupmobile victoria in mint condition. One doesn't have to read between the lines to ascertain his pride in his car. He writes:

"This beautiful jewel is a 1933 Hupmobile victoria with an all-aluminum body and a combination oil and gas gauge that shows on the dash how much oil the crankcase contains. The oil is also water cooled. A unique high-lift racing cam is designed into the straight-8, high-torque engine that develops a fast 116 horsepower. The brakes are adjustable for a man or lady driver as the leverage is changeable for a strong or soft pedal pressure. The brake bands are of one piece and have roughly twice the contact surface of the present-day auto. Approximate top speed is 92 miles per hour. [Not bad, even for today.]

"The car was manufactured in Auburn, Ind., along with its fabulous brothers, the Duesenberg, Auburn and Cord. George Raft owned a carbon copy of this car in 1933.

"During 1955 and 1956, manufacturers have gone crazy with 2- and 3-tone colors. Many of these color schemes were tacked on as an afterthought and look it! Most colors are separated by a piece of chrome. But this car (Hupmobile) has a body which was specifically stamped out with raised metal lines to accommodate a 3-tone paint job, in quarter-inch relief."

From the color photo (which unfortunately will not reproduce) accompanying Joe's letter, the car appears to be in mint condition. Fenders are chocolate brown, body a light tan and the upper half of the car a medium brown. How many readers think that Joe would swap his pride and joy for one of the modern cars?

Automotive historian Harlan Appelquist, of Minneapolis, Minn., has compiled a list of manufacturers and cars sold during 1931. The 10 leaders of that year are familiar, *viz.*:

Chevrolet	583,429	Dodge	53,090
Ford	528,581	Chrysler	52,650
Plymouth	94,289	Oldsmobile	46,983
Buick	90,873	Studebaker	46,533
Pontiac	73,148	Willys	42,936

Lincoln was in 29th place with 3486 sales, Cord in 31st place with 1416, Duesenberg was 34th with 100. General Motors was selling 43 per cent of the total cars sold; Ford and Lincoln, 27 per cent, and Chrysler 11 per cent. General Motors, Chrysler and Cord showed large profits during this Depression year; Hudson, Graham and Ford reported huge losses. Times have changed?

Interest in classics has always been intense in Canada, but H. McEwen deplores the lack of fine cars to be located in our brother country. He is interested in forming a Classic Car Club of Canada. All those interested should write to him at Box 151, Drayton Valley, Alberta. More power to you, pal!

Glenn Radtke of Osseo, Minn., writes for information about stripping the old paint from his car. The 2 most satisfactory methods are, of course, sand blasting and use of paint remover. Sand blasting is definitely not recommended for aluminum bodies. Either method removes the old paint but has serious drawbacks. Sand often pits the metal and finds its way into strategic places such as bearings and gears. Paint remover often remains in cracks and welting, causing the new paint to peel and blister after short periods. Either method can be disastrous on hand-formed bodies.

Back in the old days, many cars had bodies formed with hammers and dollies instead of dies. Ripples in the finished products were eliminated by tedious block sanding, which often took months of work. When the old paint is removed, a restorer is faced with the same imperfections in the metal, which again must be block sanded to make the finish appear perfect. The fine art of block sanding is almost a lost one, and we have seen many fine cars ruined by sand blasting or use of paint remover. If at all possible, fill the cracks and chips in the paint on a hand-formed body; then seal the old paint, reprime, and spray the new coat. Many good sealers are on the market for use with enamel and lacquer. Consult your local supply house for the best answer. Due to different climatic conditions, most large chemical concerns make different sealers for use in different areas of the country.

The new secretary of the ACD Club (Auburn-Cord-Duesenberg) is Jim Fox, RR #3, Hampton, Iowa. Membership in a club composed of enthusiasts interested in particular marques is something I cannot urge too strongly. The Rolls-Royce Owners Club, Lincoln Continental Owners Club, Packard Automobile Classics and Model T Restorers Club are other good examples. Most organizations publish monthly newsletters containing restoration solutions applicable to the particular marques. Some of the information is so detailed and accurate that it comprises the best available source of aid. Along these lines Don Baxter, 1607 9th St., Woodward, Okla., has compiled color charts and information on almost all cars built during the classic era. As examples, he has the original formulas for mixing paint for the early Auburn, Cord, Buick, Chevrolet, Chrysler products, Ford, Pierce-Arrow, Reo, Studebaker, Willys-Overland, Franklin, Graham-Paige, Hupmobile, Oakland and Packard. For a small fee to cover costs of compiling and mailing, Don will mail information on original colors, including striping shades.

In recent months, 2 publications, while extremely complimentary, have taken me to task for being indefinite and failing to state whether certain cars were or were not classic. I always hesitate to write that a certain borderline car is or is not a classic. The passage of time could make either statement wrong. There is also another way of looking at the problem. A definite statement that the 1933 Thrutinbutton is nonclassic may well result in the junking of Thrutinbuttons. Yet the cars must be of some interest or there would be no communication in regard to them in the 1st place. Nevertheless, I too own a surplus Navy firefighter's suit and when cornered have as definite positive personal opinions as the next enthusiast. Fire up the flamethrower! It is my definite personal opinion that the Franklin 6 sedan and the Packard 12 limousine (of any year) are nonclassic. No Chrysler, unless fitted with a custom body by a custom body builder, is classic. And the Auburn, while an interesting car, is still a poor excuse for a Cord.

Bob Fabris is the L-29 technician for the ACD Club. He is naturally interested in Cords and the people who own them. Recently, he mailed us a thesis designed to keep prospective purchasers from making a mistake in the purchase of a vehicle which might be unrestorable except at great expense. If you contemplate the purchase of a Cord, study the following excerps carefully:

"The L-29 Cord, a product of the Auburn Automobile Co., was produced from 1929 to 1932 with only minor changes thru the years. While some 4400 cars were registered, engine numbers above 5000 are around so that only a detailed investigation could ascertain how many were actually built. Aside from the obvious classic attraction of front drive, the L-29 was also a style-setter. It was the winner of over three dozen styling prizes, offered at various European concours d'elegance. The sharply V'd radiator shutters, long hood (genuine, due to drive system placement), and sweeping fenders set the pace for U.S. styling of the next few years. The '30 Chrysler Imperial was an obvious copy. Auburn had been scheduled to copy the L-29 frontal design, but this was changed at the last moment since they didn't want to be judged as copying the Chrysler. The straight frame allowed a low body, and the rear axle (dead) was dropped. While the stock bodies were not lavish in their interior furnishings, they were nevertheless adequate. This is how

I would rate the 4 stock body styles, from a purely personal standpoint: cabriolet, phaeton-sedan, brougham, sedan. I have seen well-restored custom bodied L-29s, of which I know of about a half-dozen in the States. If anyone knows of any, I'd appreciate hearing about them. I have *never* located the original speedster body.

"If one is interested in purchasing an L-29, I'd suggest advertising his wants in MT, the various club papers, and in the Sunday *New York Times*. Decent cars run from $300 to $700. Restoration would bring this cost up to about $1800, except for the customs. In looking over a car, check the woodwork, or get an indication of its soundness by noting any rust spots near the wood, indicating that the wood may be rotting. In any classic, the worst problem is in replacing rotten woodwork. Don't worry about the engine, unless it is completely shot. A replacement engine is not easy to come by, but parts are available, and the engine is quite straightforward for a mechanic to work on. In the 3 years of production, the engine had only one increase in bore, at chassis No. 2930154. Somewhere around chassis No. 2926500, gears were changed so that one has to be careful in locating a replacement. U-joint parts are nil. It is possible to pick up a few joints here and there, but they will probably be as bad as those you are trying to replace. To check wear on a prospective car, jack up one front wheel. Rotate the wheel back and forward and see how much play there is, and where. Play at the wheel indicates that the outer joint is bad, while play at the brakedrum must be investigated further to see if the play occurs in the joint, or deeper inside in the differential. I doubt if there will ever be the possibility of getting brand-new joints such as the ACD Club is offering to the 810-812 fans, but it is possible to repair them. I am at present working on a paper dealing with their reconstruction. A new steering wheel is impossible to obtain; timing chains difficult; '29 Hudson steering gears are supposed to fit; bearings are all replaceable through distributors; most ignition parts, and 99 per cent of the Bijur parts, can be obtained from regular channels. However, rare is the distributor with 27-year-old catalogs, so that I'd advise anyone looking for particular parts to get in touch with me as I obtained a fair amount of pertinent information a couple of years ago. Also, don't neglect the Auburn-Cord-Duesenberg Co., in Auburn, Ind., which has a large stockpile of parts.

"After you have looked over your prospective purchase and have decided to tow it home, welcome to the fold . . . You will find yourself with a car which is not only a classic in appearance, but has good handling qualities as well. In addition, you will be enviable, as well-restored L-29's are quite rare.

"As mentioned before, the mechanical aspect of the L-29 is quite straightforward, and component parts are very similar to those in contemporary cars, except for the U-joints. These were designed for this car alone and perform well on it when properly maintained. This means adequate lubrication, a point which cannot be emphasized too much. The engine is the same as that used on the big Auburn of 1929, except for the head. Any mechanic worth his salt can do a restoration job on it and the gearboxes. A crash box was used, with a mechanical shift. This gave a very positive arrangement. There are 2 fiber rollers on top of the engine, thru which the shift rod passes. If one of these is in poor shape the car won't shift. Brass rollers should be used. If gears have to be replaced, care must be taken to get gears from a similar box. Not only did the number of teeth change, but the countershaft diameter changed also. And don't think you can replace an entire gearbox, as I did—early boxes had 2 mounting holes per side, later ones had 4. These can be seen under the fender behind the wheel, between the spring anchors.

"Ring gears and pinions were made as sets, and should be replaced as such. Three different gear ratio were available; the number of teeth in both ring and pinion is punched on the top of the differential case on the left side as one looks from the front. They are written as 53-(10, 11, 12—as the case may be). A very important washer acts as a spacer to give correct pinion protrusion."

DO IT YOURSELF

a photo story by V. Lee Oertle

SAVE IT WITH NEOPRENE

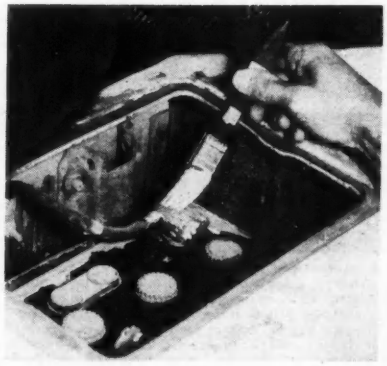
MANY PLACES on the chassis of your car need frequent attention due to rust and corrosion. Paints and sealers often won't last long enough to be of much help. Road salt continually peppering the undercarriage can rust the family bus quicker than a steam bath, cause brackets to rattle, exhaust pipes to rust thin and battery frames to corrode.

A new product called liquid neoprene is easy to use and may be just the ticket for quick, effective maintenance. Not a paint, this product is actually almost pure liquid rubber, and the manufacturers claim it is unaffected by sustained temperatures from 200° to -35° F. Liquid neoprene can be used as a weatherproof covering for any metal part of your car to prevent rust, corrosion, and inhibit oxidizing action in general. Also, it is simply applied by brush on any clean surface, and is elastic enough to give and take with the spring action of the body.

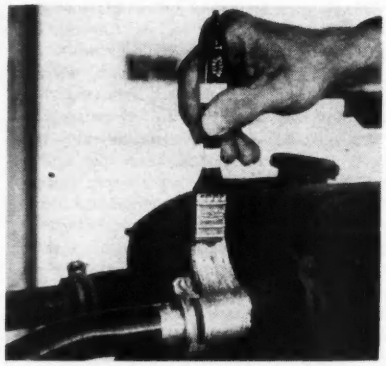
Preparing the surface means removing grease and oil, flaking paint, rust or scale, and using steel wool over slick areas not likely to have good bonding qualities. In the can, neoprene resembles a thick pudding, but it spreads amazingly far. Neoprene thinner or acetone is required to clean brushes and hands. Never leave the lid off the can for long, or you'll have nothing but a quart of rubber to try and handle. It dries on contact with air, and resists moisture to a surprising degree.

Convertible tops, or any canvas or fabric material, can be safely patched or waterproofed with neoprene, as can door and window moldings, floor mats, pedals, and hood linings. Successive layers may be applied for extra thickness by waiting about 30 minutes between coats. Liquid neoprene comes in jet black, gray, and aluminum. When using over rubber surfaces, a thin coat of black tire paint applied over the top will make an invisible blend at the joint. Already, unscrupulous tire and car dealers are making use of this fact in selling useless but camouflaged equipment. Neoprene is highly resistant to oil and gasoline, unlike most other rubber, and may therefore be used around these chemicals.

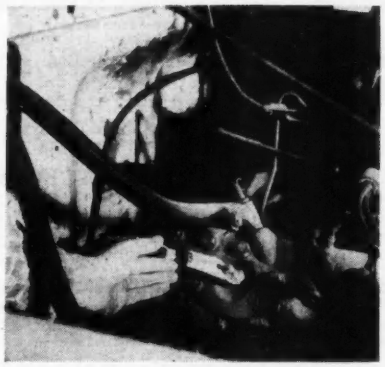
Liquid neoprene is now generally available thru parts houses, lumber and hardware stores, or direct from the manufacturer. Two of the available brands are Pro-Chem, P.O. Box 1928, Grand Central Station, New York 17; and Gaco N-700, made at the Gates Engineering Co., Wilmington, Del.



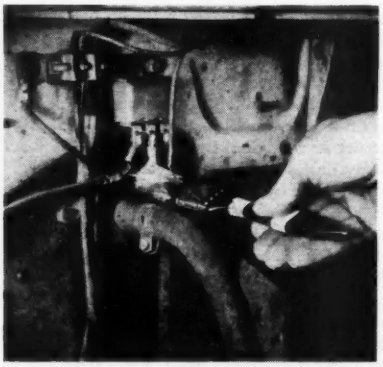
Wire-brush and wash battery terminals in solvent before coating with neoprene to inhibit corrosion



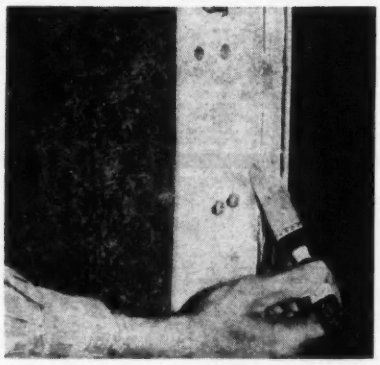
Small cracks in the outer layer of hoses can be prevented from going deeper with 1 or 2 coats



Short-term waterproofing of sparkplugs is a good feature of neoprene. Prolonged use may cause arcing

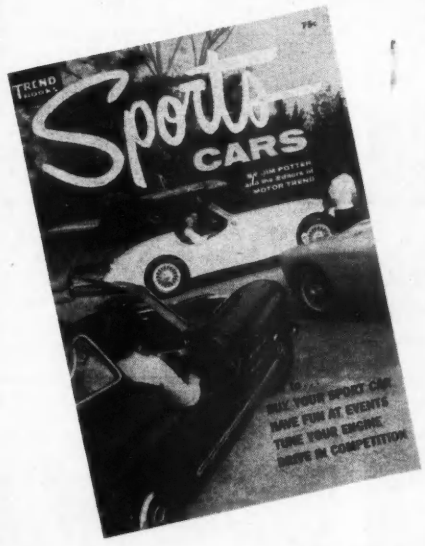


Low-voltage connections may be more satisfactorily coated, after careful cleaning, to prevent rusting



Rubber weatherstripping can often be renewed and sticking prevented with several layers of neoprene

Voltage regulator and distributor caps become waterproof when the liquid neoprene is applied to joints



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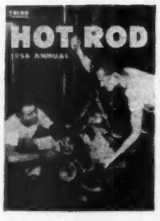

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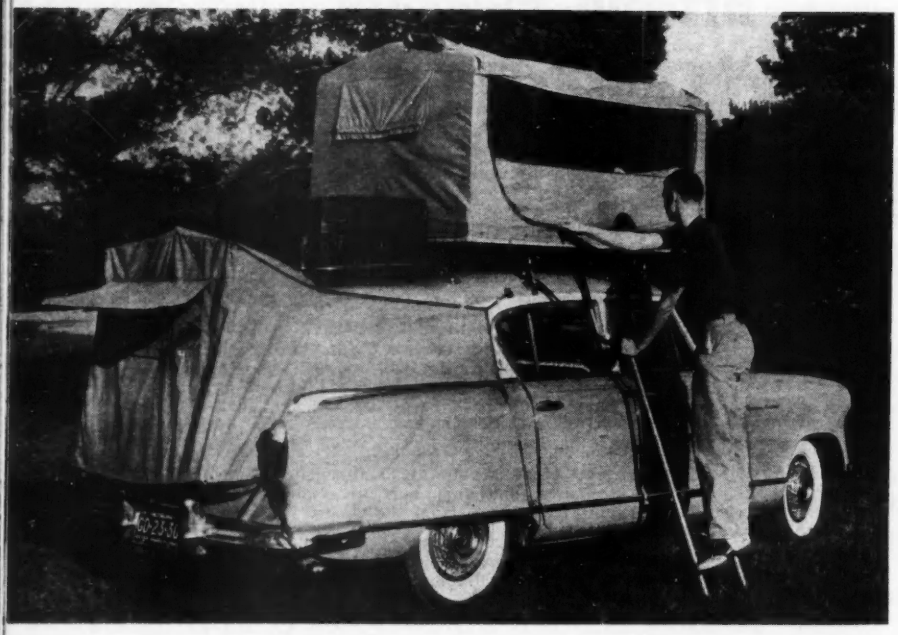
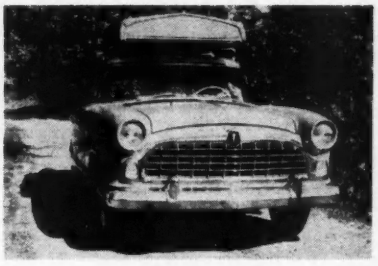
CAR CAMPING . . .



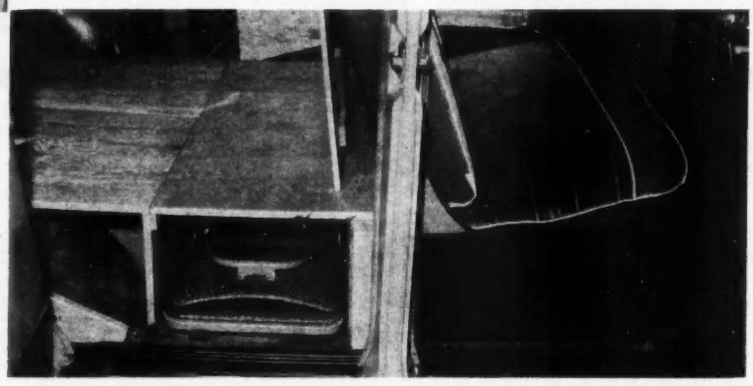
This ingenious device is a Tour-a-tent, made in Birmingham, Mich. by the Gibbons Supply Co. The innerspring mattress will provide luxurious sleeping accommodations for 2 adults and is very easily set up or repacked for traveling, since the 48- by 74-inch bed doesn't need to be disturbed. The whole business comprising the car-top carrier weighs only 150 pounds, and includes a 2-piece telescoping ladder with wide non-skid treads. It fits most sedans and wagons, and sells for $345 with a pullman-type clothes hammock and a sling arrangement for hoisting the unit to your garage ceiling

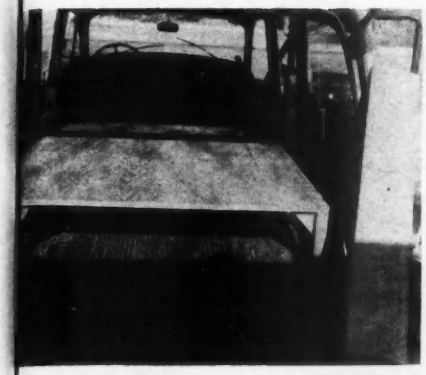


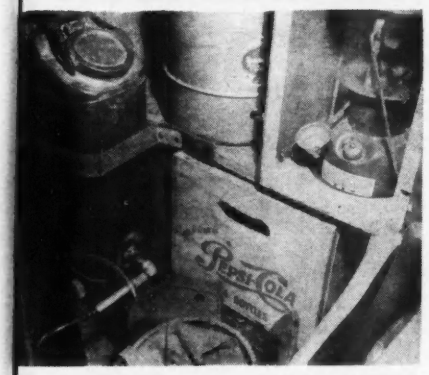
HOWARD E. JACKSON

Seattle free-lance writer Howard Jackson devised this sleeping-eating-typing arrangement after much measuring and planning. He discovered, after removing the rear seat and trunk partition, that a 78-inch space between the back of the front seat and the rearmost point in the car would provide space for a bed. A deck of ⅝-inch plywood was cut to fit; 3 pieces being used to allow access to the spare and to make a seat. A 15-inch-wide shelf, curved and hinged to the seatback, forms the typing table

WITH AN EVER-INCREASING number of people using their cars for camping, new and different tricks evolve to make these trips more enjoyable. Also, people with small children are intrigued with the built-in playpen idea. These functions are frequently combined in one. In addition to the ideas on these pages, there are at least 2 manufacturers of pads for station wagon beds. One, the Wagon Mat, fits around the wheel wells to completely cover the floor, and folds at crosswise creases for compact stowage. It's made by Suburban Products Co., Box 1452, Decatur, Ala. The other is really a tailored-to-fit mattress that makes a regular bed in late-model Fords, Mercs, Chevys and Pontiacs. It's $19.95 from Wagon-Aids, Box 106, Reseda, Calif. It seems only logical that an investment as large as an automobile should be used for more than transportation. A car should be *fun* to own. Whether you have a sports car or go wagon camping doesn't matter. Enjoyment is what's important.



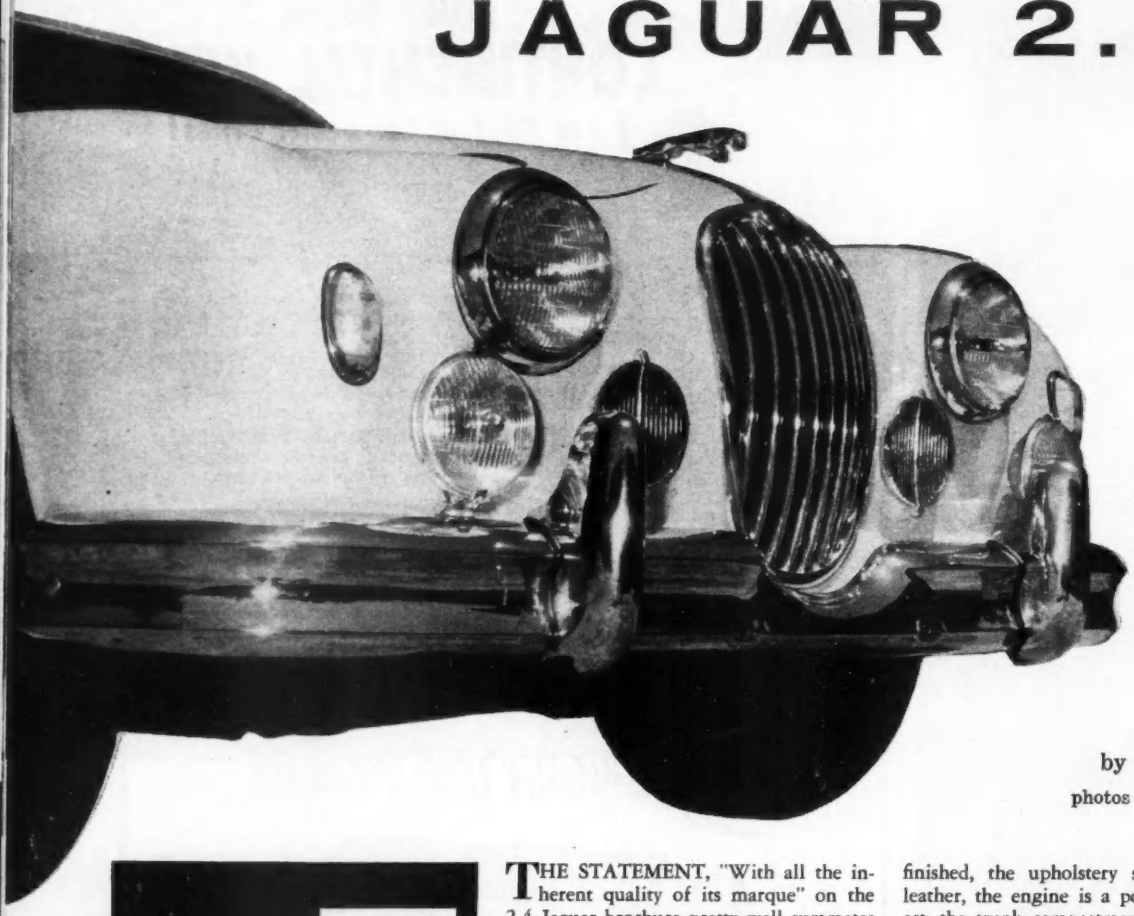




ARNOLD MARQUIS

In search of greater comfort and convenience on his many camping trips, Gene Ground made this station wagon accessory. A 4- by 8-foot sheet of ¾-inch plywood, trimmed and mounted on legs, provides storage space underneath and a platform for sleeping bags and further storage. A well-cleaned surplus Jerrycan with valve and spout (soldered into a hole near the bottom) forms a water supply. Webbing straps hold it in place. Soda pop boxes make drawers for groceries; they're accessible thru the side doors. Also, a box to hold and protect the gasoline lantern was provided on the right side. Stowing the heavy gear beneath the shelf, with light bedding and gear on top, usually allows enough space for a resting spot while traveling. Neatly stowed equipment, handy when it's wanted, takes most of the drudgery out of camping trips

JAGUAR 2.4



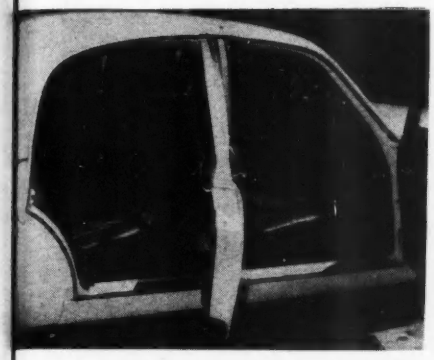
by Walt Woron

photos by Bob D'Olivo

THE STATEMENT, "With all the inherent quality of its marque" on the 2.4 Jaguar brochure pretty well summates our overall impression of this new car—a scaled-down version of the Mark VII. It's a quality product, assembled with the usual British and Jaguar care, and one that you might buy in preference to others largely because of this factor. The instrument panel is tastefully done in walnut, the instruments and controls are finely finished, the upholstery shouts that it's leather, the engine is a polished work of art, the trunk compartment is finished in the same high quality, tho of different and less expensive materials.

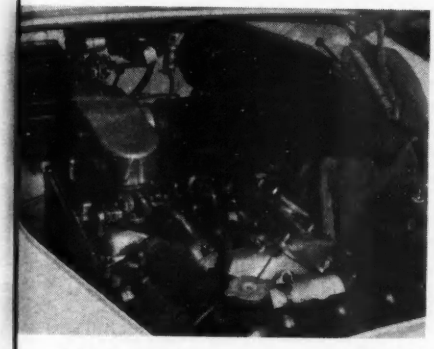
Other reasons you might want a 2.4 would be its sensible size (107⅜-inch wheelbase, 15 feet overall length), that allows extreme maneuverability in town, and its XK-like road-holding ability that stamps it as a good touring car.

The new model has combined the looks of its bigger sisters, using the grille of the XK-140 sports models with the general outline of the Mark VII sedan



Doors open wide on a conventional interior with step-down frame, extra-fine leather, scant rear knee room

Adjustable steering wheel and sporty driving position give unique feel. Gear lever throw is too long



Polished overhead-cam engine uses same-length block as larger Jaguars, but stroke is just under 3 inches

Trunk is mammoth by British standards, average by ours. Seldom-used spare is handier out of the way

The "Special Equipment" model (de-luxe version selling for $3795) we borrowed from West Coast Jaguar distributor Chuck Hornburg had just been pulled out of the press showing and therefore had too little mileage to allow us to get performance figures. A quick check of its available power, its weight, and its gear ratio would lead us to the assumption that it will go from a standstill to 60 mph in 15-16 seconds. If you're not satisfied with this performance, you can always fit the D Jag head to the 2.4 block, replace the twin Solex carbs with S.U.s, and with a few other modifications, probably up the horsepower to somewhere around 150 from its present 112. This would give you a weight/power ratio of 18½ to 1 instead of the current 25 to 1.

Fuel economy should be a couple of miles per gallon better than the 21.4 tank mileage we got with this tight engine. It would also be appreciably better when the car is equipped with the Laycock-de Normanville overdrive, optional at $160.

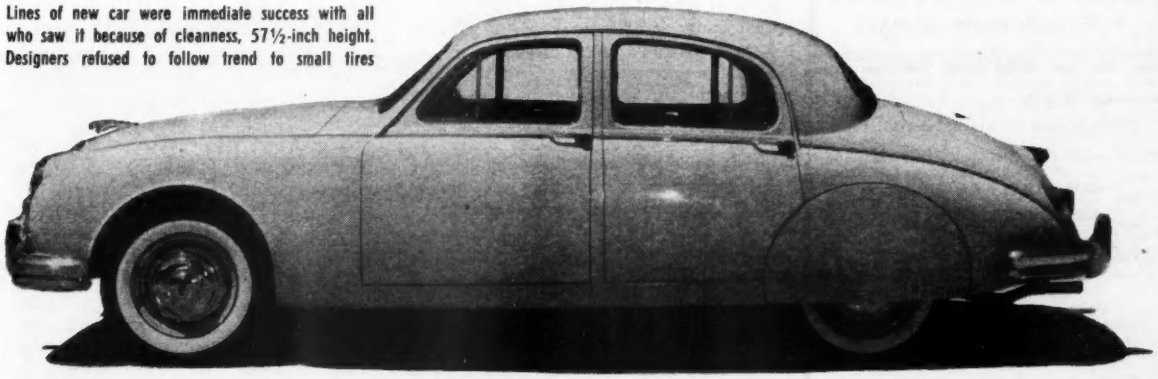
The 2.4 is simple enough to drive, requiring only that you not be averse to shifting thru 4 forward gears. Space around the pendulum pedals is adequate except that the clutch is too close to the large dimmer switch button. The steering wheel is mounted on a telescopic column and can be adjusted to your own desire. The key and choke are a fairly long reach since they are still located for right-hand drive, as are all the instruments; it would seem a fairly simple matter to make a more legible setup by transposing the instruments and controls, *i.e.*, tach for speedometer. Openings are the same size.

This new Jag, suspended independently in front with coils and solidly in the rear with semi-elliptics, holds the road well with a minimum of body lean. It requires corrective action down a straight road only when there are side wind gusts of high intensity. The steering wheel is generally rock steady, except on the roughest of roads. Maintaining a cruising speed of 60-70 mph on the open road is pleasurable and safe; the servo brakes stop you smoothly and quickly.

Sitting on the wide-backed, semi-bucket, leather-covered seats, you ride firmly, with a lack of pitching about, have an insensibility to road noises, and experience no wallowing after hitting bad dips or bumps. There's lot of legroom for front seat passengers, not so much for those in the rear seat. Armrests are positioned so you can use them without contortions.

The 2.4 Jag is a solid approach to the philosophy of furnishing a quality product with no particular gimmicks to excite the flames of desire in the heart of the aficionado. Price-wise, it competes with cars like the Olds 98 and Buick Roadmaster, which may or may not be in its favor, depending on how much metal you want for your dollar. The 2.4 gives a great deal of craftsmanship per pound per dollar.

Lines of new car were immediate success with all who saw it because of cleanness, 57½-inch height. Designers refused to follow trend to small tires



FUELS for the FUTURE

continued from page 34

the benefit of a suggested 5-cent price differential. A blending agent, mysteriously described as "a mixture of a small number of specially selected hydrocarbons, blended with stocks from a Sun-developed process, and combined with TEL," is automatically mixed in the proper quantities by the pump into all grades above regular. The agent, stored in its own tank, is not for sale separately.

Despite problems of educating dealer and customer alike in proper use of the new pump and its products, the experiment has proved successful enough to warrant expansion thruout the state of Florida by the end of this summer. Industry observers feel that the system may revolutionize gasoline marketing, and Sun is in the nice position of being thoroly protected by patents on the blending-dispensing pumps.

Liquefied petroleum gases (LPG), such as propane and butane, had a surge of popularity during and immediately after World War II, but can hardly be called a fuel of the future. Butane *by itself* is almost unusable in automobiles because it will not vaporize below 32° F. Blended with large quantities of propane, it is a high-octane but very hazardous motor fuel if a leak develops.

Surprisingly, largest users are fleets of taxis and buses which have no particular use for octanes, but appreciate the clean burning qualities of LPG. Phenomenal maintenance savings have been reported (one test taxi ran 162,000 miles without overhaul), but these gains can't benefit the private owner until adequate distribution is set up and the approximate $300 cost of conversion is lowered.

Distribution is not only bad but hamstrung by legislation at a local level. For example, no vehicle burning propane can operate on the streets of Cleveland, Ohio. Many municipalities will not allow propane to be sold for vehicular use within their limits, and it is not available at all in 5 states. A cross-country drive in a car set up for LPG would be quite a trick. Should LPG catch on, its present cost advantage would soon be offset by increased refinery prices and taxes.

Nitromethane, sometimes called the "poor man's supercharger," is currently attracting interest in other than racing circles, but most of this interest is academic. It does boost power in an engine when blended with an alcohol fuel (about 1 per cent power increase for each 3 per cent nitro added); however, alcohol fuels are not likely to be generally available for motor cars at any time in the future. When nitro is added to a hydrocarbon fuel (any gasoline sold to the public today), it actually increases pre-ignition tendency to the point where actual engine failure could easily result.

In the field of additives, just about everything has been added to gasoline that can be added, with lots of research effort being devoted to this subject. We already have upper-cylinder lubricants; anti-rust, -carbon, and -stalling agents; and the phosphate group like Shell's TCP and Ethyl's ICC, which prolong sparkplug life. Don't expect many more "miracle additives," tho.

The advent of turbines and free piston engines which will operate satisfactorily on most any hydrocarbon that will stay liquid in winter is no problem for the research laboratory. Conventional JP-3, -4, or -5 aviation-type jet fuels should be excellent, tho it is possible richer fuels will be needed after all. It is bound to be a headache for those in the production and marketing end of the business. Kerosene-type fuel is real cheap now, but when the demand for it increases, so will the price. This seeming paradox is caused by refinery economics; to get more kerosene out of existing equipment would mean getting less of the higher octane components, which refiners now get a good price for as gasoline.

New, non-hydrocarbon fuels, such as monopropellants or atomic energy, obviously won't come into automotive use unless powerplants are developed to make use of them.

Neither one is a likely prospect for cars. A nuclear powerplant weighs tons, mainly due to the necessary shields to contain the radioactivity. Granted even spectacular progress in weight reduction, it will be a long time before one can be crammed into a truck, much less a family car. There is always the possibility, however, that nuclear powerplants could be used to create cheaply another form of energy, such as prosaic electricity, which could be tapped for auxiliary power by suitably equipped cars using the superhighways or monorails of the future.

Fuels classed as monopropellants are those which contain their own oxygen. Propyl nitrate is a typical example and actually gunpowder is another, except that in engines, you want to control the rate of combustion. That is why these fuels are usually solid pellets, the size of the pellet determining the surface volume and therefore the rate of combustion. A typical application is the Jato unit used by the Air Force to lift heavily loaded bombers off the runway and to give them a big shot of speed on the bomb run. Unless cars start flying in the stratosphere, they really do not have much use for a monopropellant. Oxygen is free near the ground.

drivescription '56

DE SOTO
ADVENTURER

ALL HONEST and available, 320 horsepower is enough to make any car a bomb. Combined with a striking gold and white color scheme and an especially deluxe interior to match, it adds up to a very desirable piece of property.

Enough people seem to agree with us: the total production run of 1000 Adventurers was sold out within 6 weeks of introduction. Our test car was literally the last one not in private hands around Detroit, and performance figures were not helped by the fact that prior break-in consisted almost entirely of the car revolving on turntables at auto shows.

Compared with my own 1955 stick-shift Fireflite (the same one—now with 19,000 miles on the odometer—that peaked out at 112-plus mph for the 1955 Class 3 record at Daytona), the new Adventurer is a vast improvement. Its speed potential was clearly demonstrated by the prototype, which was clocked at 137-plus (1 way) this year at Daytona; later the same car did 144 mph around the track at Chrysler's proving ground.

Chrysler Corp.'s basic design for a stick-shift transmission must have been submitted free-lance by a New York taxicab driver. DeSoto wisely does not make it available on the Adventurer, even tho the prototype was so equipped.

With the exception of top speed runs, all Adventurer times listed on this page were made with a car that *was not broken in*. The small difference in low-speed acceleration between the '56 Fireflite and the Adventurer is attributable to the ¾-race cam which favors high-end performance. Actually, give or take the spread between production cars of the same make, a '56 Fireflite will get ahead of an Adventurer between 0-40 mph, but don't carry the same race on up to 90 mph or you will lose.

As is usual practice on Chrysler Corp. "sports" models, the Adventurer has stiffer-than-stock springs and shocks. These produce a ride which we favor, altho we admit we don't seem to be in line with the majority of car buyers in this respect. Handling is excellent, with a heavy car feel, for after all DeSotos weigh only about 100 pounds less than the Chrysler 300-B and are only 2 inches shorter.

Here's a 3-way performance comparison between the Adventurer, our '56 road test Fireflite, and the '55 Daytona winner.

—Don MacDonald

Speed or Distance	'55 200-bhp Fireflite * †	'56 255-bhp Fireflite	320-bhp Adventurer
0-30 mph	4.3	4.0	4.0
0-60 mph	12.1	10.9	10.5
¼-mile	18.9 (77 mph)	17.8 (78.5 mph)	17.5 (81 mph)
30-50 mph	4.7	3.9	3.9
50-80 mph	13.2	11.2	10.4
Top Speed	112.3 (sand) 118.0 (cement)	108.7 (cement)	137.3 (sand)* 144 (cement)*

*with standard transmission
†equipped with Hi-Tork differential for all tests but top speed on sand

COMPETITION-BRED COUPE

PAUL WEST

This mouth-watering creation is the "everyday" (!) version of the Aston-Martin DB-3-S, wearing an aluminum body whose design was the inspiration of David Brown himself. Some details: torsion bars front and rear, 210 bhp, de Dion rear axle giving 150 mph with proper ratio, tubular chassis. Engine is that of competition car

Nash

NASH AND HUDSON

continued from page 25

with instrument panels padded around the top, effectively shrouded instrument housings to eliminate daytime glare and nighttime lighting reflections. "Hot spots" came from heavily chromed trim near center of dashboards, chromed steering wheel hubs and crossbars.

Instruments and controls: Nash instruments are placed toward the center of the panel, the Hudson's are grouped directly in front of the driver. Nash utilizes a conventional needle-type speedometer, has small-sized indicator lights instead of oil pressure gauge and ammeter. Thermometer-type horizontal speedometer is used in Hudson; it's as useful as a pointer type, but moved back and forth with evenness of road surface. Hudson instruments are easier to read, being white on black; indicator lights are huge, jeweled jobs that eliminate guesswork. Fuel and temperature gauges aren't as well placed as the high, line-of-sight gauges on the Ambassador Special. Hydra-Matic quadrants are placed farther down the steering column than on most cars so equipped. Altho Nash, with power brakes, had larger pedal than Hudson, neither car had brake wide enough to be used naturally with the left foot. Hudson pedal seemed ridiculously small by current wide-pedal standards.

HOW THE CARS PERFORM

Acceleration: Need for increased displacement quite evident here from a competitive standpoint. Smoothness of Hydra-Matic was appreciated, but this transmission with a 3.54 (or particularly the optional 3.07) axle isn't conducive to high performance with a low-torque engine. Snappier performance can be expected from overdrive-equipped Specials using the 4.55 to 1 axle supplied. With this setup, 0-60 mph times should be shaved to the 12½-13 second range; quarter-mile times should drop to about 18½-19 seconds, but don't expect much increase in speed thru the quarter. Low-speed acceleration thru 1st and 2nd gears should be excellent.

Times shown in the table were made in DRIVE range (using all 4 gears); transmission couldn't be outsmarted by using LOW or D-3 range—it shifted thru all gears no matter what range we held it in, a safeguard against over-revving the engine.

Braking: The Specials behaved oddly compared to other cars. They showed absolutely no swerve or uneven stops until the brakes faded completely on the 6th hard stop. "The Big Surprise" came after the 6th stop, when the brakes began to recover quickly. Within a minute after this stop another check was made, with full brake recovery. Pedal action remained hard for some time, and by the 11th and 12th stops there was slight pull to the left (which eventually disappeared), but no more fade.

Roadability: Manual steering gave uncomfortable feeling if the car hit soft road shoulder, required plenty of muscle to crank the wheel out of a rut. Generally well-behaved (no strain in streetcar tracks, no loss of traction bounding over railroad tracks at any speed) under all conditions, the Specials were susceptible to wind wander, lost normally good directional stability when cutting thru gusts of wind. Coming out from behind a passing truck at high speed with a stiff crosswind blowing, car would move out of its lane, with body movement removed from car direction.

Body lean was disconcerting in hard cornering maneuvers, but cars stuck well, even on gravel or loose dirt. Altho tire squeal was fairly low, stress on outside tire in corners was vividly evident to a bystander. The 6.70 x 15 tires rolled under the rim alarmingly compared to the same size tires on a stiffer-sprung car.

The car with power steering was considerably more nimble, could be whipped thru tight turns without illusion of frontheaviness. Power steering didn't sacrifice directional control or create over- or understeer as is often the case with power steering. It was much easier to correct slides, drifts or misjudgments in the Nash with power steering.

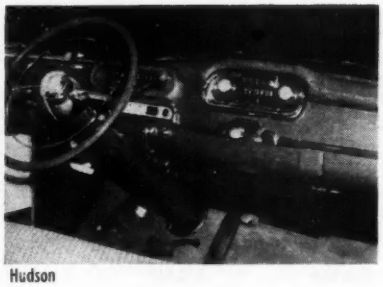
PASSENGERS' COMMENTS

Exit and entry: Vertical cornerposts of wraparound windshield don't extend into passenger's angle of entry; doors open wide, have good stops, disclose a generous entranceway. Both cars were standard 4-door sedans, made no space concessions to hardtop styling.

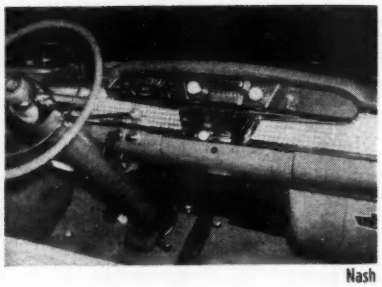
Ride: It's hard to describe riding qualities of both cars without saying, "You've got to try them to appreciate the ride." Equipped with unbeatable reclining seats, Nash and Hudson offer passengers a ride that's free of bothersome shakes and rattles, but not opposed to body roll. Follow a 4-coil Hudson or Nash along a road that's sprinkled liberally with tarstrips, bumps and washboard stretches and watch the rear wheels, axle and differential case rise and fall; and keep an eye on the rear bumper of the car—it stays amazingly steady.

With the front seat tilted back to the position of your choice (ranging from easy chair slope to completely flat on your back) you find *any* trip untiring. And there's the advantage of the driver and/or passenger being able to stretch out and "take 10" or even sleep all night.

Rear seat passengers find the going smooth; with the front seat tilted backwards any more than 45 degrees, someone in back has to move. Tho legroom isn't as great as in many cars, you won't notice much difference; rear seat headroom isn't challenged until you get into a limousine.



Hudson



Nash

CONSTRUCTION AND MAINTENANCE

How well they're put together: Both cars showed slight faults—a mismatched line between 2-tone painting on one car, misaligned ashtrays on both. (We found this on last year's cars also, then attributed it to early production.) The more important points—windshield molding, door panel construction, window mechanism, upholstery, fit of hood and of the rear deck showed no flaws

Servicing: You shouldn't run into complications here. Any competent mechanic can handle the A-M V8 with the proper tools and service instructions. Gas station attendants may be inclined to overlook the battery when you stop for gas and oil—the battery is up near the cowl, in a bad spot for a look under the cell caps. Sparkplugs are above the exhaust manifolds, but sheet metal of the fender wells crowds in toward

the engine to complicate hasty removal of the center and rear plugs. Unit construction eliminates much periodic checking, for there are no body-frame bolts to loosen and cause latter-year failures.

OPTIONS

Other models: Hornet Special and Ambassador Special are available in a 2-door hardtop. Hudson comes in 1 sedan, Nash in 2. Standard shift, overdrive and Hydra-Matic are available on any model.

Equipment and accessories: Cars were alike in most respects. Hornet was less fancy, less costly Super model. It had no power steering or power brakes, but these items (or any accessories on the list) are available on the lower-priced cars. High on this list in this vacation month are the air mattresses and insect screens for camping. Moderately priced air conditioning is available in all A-M products, comes in a package deal with an excellent heater, doesn't take up any trunk space.

MT ROAD TEST

PERFORMANCE

(190-bhp engine)

ACCELERATION From Standing Start
0-30 mph 4.6 0-45 mph 8.5
0-60 mph 14.6
Quarter-mile 19.7 and 69.7 mph

Passing Speeds
30-50 mph 5.6 40-60 mph 6.9
50-80 mph 15.0

FUEL CONSUMPTION Used Mobilgas Special
Stop-and-Go Driving
16.2 mpg over cross-country course
12.0 mpg over traffic course
14.7 mpg tank average for 964 miles

Steady Speeds
21.1 mpg @ 30 19.0 mpg @ 45
16.1 mpg @ 60 13.7 mpg @ 75

STOPPING DISTANCE 151 feet from 60 mph

BRAKE FADE Slight on 4th stop from 60 mph
Complete fade on 6th stop with hard pedal action, no swerve
Recovered for effective stop on 7th stop; no further fade thru remainder of 12-stop test

TOP SPEED Fastest run 102.1 Slowest 98.8
Average of 4 runs 101.5

SPEEDOMETER ERROR Read 31 at true 30, 46 at 45, 61 at 60, and 77 at 75

SPECIFICATIONS

ENGINE: Ohv V8. Bore 3.50 in. Stroke 3.25 in. Stroke/bore ratio 0.928:1. Compression ratio 8.0:1. Displacement 250 cu. in. Advertised bhp 190 @ 4900 rpm. Bhp per cu. in. 0.76. Piston travel @ max. bhp 2654 ft. per min. Max. bmep 144.8 psi. Max. torque 240 lbs.-ft. @ 2000-3000 rpm.

TRANSMISSION: Standard transmission is 3-speed synchromesh with helical gears. Overdrive transmission is standard shift with planetary gearset. Automatic transmission is Hydra-Matic, 4-speed planetary gearbox with 2 fluid couplings.

RATIOS: Standard transmission: 1st 2.57:1, 2nd 1.55:1, 3rd 1.00:1, reverse 3.49:1. Hydra-Matic: 1st 3.97:1, 2nd 2.55:1, 3rd 1.55:1, 4th 1.00:1, reverse 4.31:1. Overdrive, 0.70:1.

REAR-AXLE RATIOS: Standard transmission 4.09:1, overdrive 4.55:1, Hydra-Matic 3.54:1 (3.07:1 optional).

STEERING: Number of turns lock to lock: mechanical 4.3, power 3.8 (Hudson); mechanical 4.0, power 3.6 (Nash). Overall ratio: mechanical 26.1, power 23.7. Type: worm and roller (mechanical and power).

WEIGHT: Test car weight (with gas, oil and water) 3846 lbs. (Hudson), 3894 lbs. (Nash). Test car weight/bhp ratio 20.2 (Hudson), 20.5 (Nash).

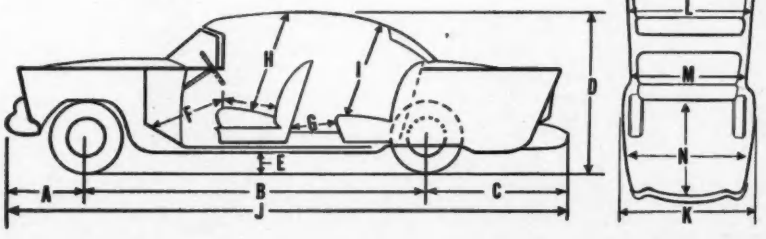
TIRES: 6.70 x 15 tubeless.

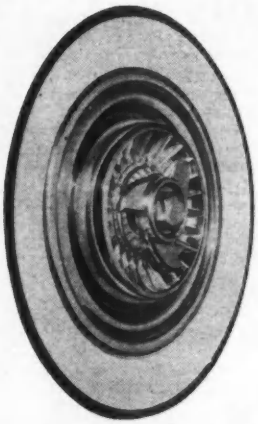
PRICES: (Including suggested retail price at main factory, federal tax, and delivery and handling charges, but not freight.) HUDSON HORNET SPECIAL Super 4-door sedan $2626, 2-door hardtop $2741. NASH AMBASSADOR SPECIAL Super 4-door sedan $2591, Custom 4-door sedan $2816, 2-door hardtop $2681.

ACCESSORIES: Flashaway Hydra-Matic $205, overdrive $109, power brakes $39 (available with automatic transmission only), power windows $110, power steering $108, radio $93, heater $80, air conditioning and heater $395, reclining seats and twin beds $23 (standard on custom models). Continental tire $125.

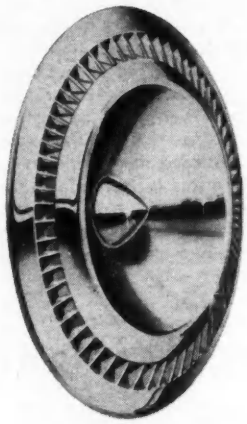
DIMENSIONS

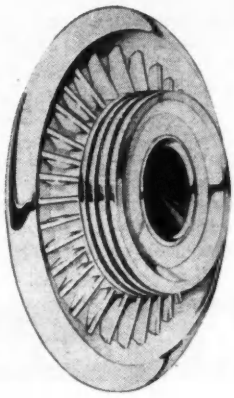
A FRONT OVERHANG 34.9
B WHEELBASE 114.3
C REAR OVERHANG 53.1 (63.1 w/continental tire)
D OVERALL HEIGHT 61.8 (63.3 unloaded)
E MINIMUM GROUND CLEARANCE 6.3 at muffler)
F FRONT LEGROOM 42.5
G REAR LEGROOM 40.1
H FRONT HEADROOM 37.5
I REAR HEADROOM 36
J OVERALL LENGTH 202.3 (212.3 w/continental tire)
K OVERALL WIDTH 78
L FRONT SHOULDER ROOM 61.5
M REAR SHOULDER ROOM 61.3
N TRUNK CAPACITY N/A





This very real-looking hubcap is actually a Fiberglas falsie; chrome finish is sprayed on. Cover at right, above, is the real thing



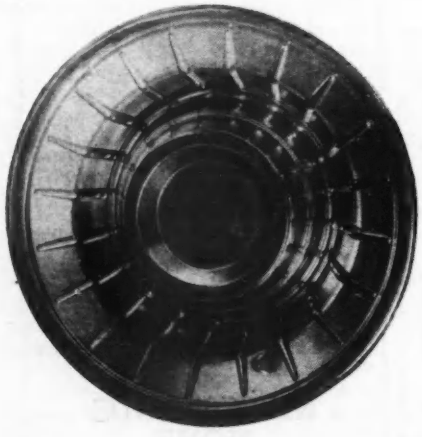


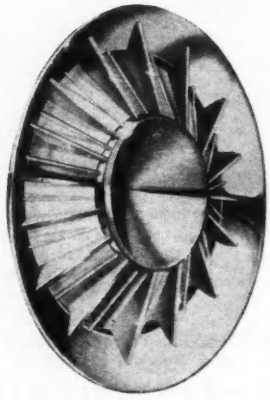
Not an outboard-mounted brake drum, but a deeply grooved hub surrounded by flashing blades and a narrow, plain rim. Production tooling costs would make this one quite expensive. Below, the sunburst cover with depressed hub and radiating fins is still only a drawing-board idea. The deeply finned, austerely elegant cover shown at bottom is prettiest of all

Glamor on Wheels

Now available is gold-colored anodized aluminum "Cover-All," priced at $24.95 a set, silver-color $3 less. It won't squeak

Unusual spongecake-pan idea reflects image of ribs





IT'S THE BUSINESS of Gar Wood Industries' Automotive Division to produce wheel covers as original equipment (DeSoto Adventurer, Plymouth Fury hubcaps are the latest) and for the accessory trade. But before they sell, they have to show.

This they did, at Chicago's Accessory Show (May MT). The company had its latest offering on display, the unique Cover-All that covers the entire wheel, leaves no exposed outer wheel flange. But also on display were some prototype hubcaps—proving that like a new car, a wheel cover has to go thru the growing pains of artists' conception, mockup and production. Here, shot behind the scenes at the Ypsilanti, Mich. plant are wheel embellishments in many stages—from "right now" to "who knows when?"

drivescription

285-HORSEPOWER PONTIAC

	(Star Chief, 227-bhp engine)	(Chieftain, 285-bhp engine)
ACCELERATION	From Standing Start 0-30 mph 4.0 0-60 mph 11.4 Quarter-mile 18.1 and 76 mph Passing Speeds 30-50 mph 5.1 50-80 mph 13.7	From Standing Start 0-30 mph 4.1 0-60 mph 11.9 Quarter-mile 18.2 and 75.5 mph Passing Speeds 30-50 mph 4.9 50-80 mph 12.1
FUEL CONSUMPTION	Used Mobilgas Special Stop-and-Go Driving 12.1 mpg	Used Mobilgas Special Stop-and-Go Driving 11.4 mpg
SPEEDOMETER ERROR	Read 31 at true 30, 47 at 45, 63 at 60, and 79 at 75	Read 36 at true 30, 53 at 45, 69 at 60, and 86 at 75

THE HOT-SOUNDING PONTIAC heralded by our April announcement of the optional 285-horsepower engine came to our eager hands one spring afternoon. So workmanlike a growl came from its V8 that we got our hopes up a little too high for a car that was just 66 miles from the assembly line.

The test car, all around, was more obviously a man's car than our Star Chief 4-door hardtop, given full treatment in the May MT. It was economical-1st-cost, price-leader hardtop, with the usual power steering and brakes and, to our surprise, a Strato-Flight Hydra-Matic, originally announced as not available on the lower-priced models.

Around town, we weren't impressed. A high-lift cam, 10 to 1 compression ratio and the other tracklike tidbits don't necessarily make the pleasantest traffic machine. Even the obedient-servant handling of other '55 and '56 Pontiacs seemed to have vanished in a welter of tire squeal and front-heaviness. We headed for the desert with some trepidation.

But we could have saved our fretting. At higher speeds the beast settled down, and rounded mountain curves within shouting distance of even our test Lancia Aurelia (for which you'll have to wait till next month). The Chieftain showed a real potential for high-speed acceleration—after break-in period.

Even the Hydra-Matic thrived when handled roughly. An old-fashioned lurch occurred without fail between 2nd and 3rd gear, *except at full throttle;* 1st-to-2nd and 3rd-to-4th shifts were as smooth thruout as we have come to expect from this excellent box.

As you can see from the performance table comparing this car with the heavier, much less powerful Star Chief, the unbroken-in car didn't stack up so well. This is no reflection on the Pontiac, but it does dramatize a recurring problem that we face. What to do with a car for which we and thousands of readers have been waiting, only to find that it has too few miles on it? We can give you an incomplete report. Otherwise, we have to drop everything and take it on an extended trip where even gas mileage has little validity, or we must delay our report on it until next issue. Almost the only people who can help us here are those who supply us with test cars. In a sense, it does little good to explain to our readers that a car was not broken-in when we timed it. —**Pete Molson**

SAAB 93

continued from page 37

front end slip by boring into corners like the one shown at frankly impractical speeds after 1st grossly over-inflating the tires. By the way, these are tubeless and of Swedish manufacture.

Washboard surfaces will cause some wheel hop if taken at fair speeds, but one gains the impression that it would take something quite drastic to cause transmission of enough vibration thru the steering system for complete loss of reasonable control. With the rear seat capable of handling fairly trim adults with more legroom than in most similarly sized cars, the Saab's road habits are scarcely altered even when loaded to the bursting point.

Unfortunately the speedometer-odometer on the 1st cars imported was marked in kilometers, so a slide rule was brought into play when calibrating the speedometer in "American." A consistent 5 per cent on the optimistic side was evident from 24-25 mph all the way up. Cruising at 50 to 60 mph, the valveless 2-stroker is very tractable. A decent 12.4 seconds in 3rd gear (top) takes you from a true 30 to 50 mph. In 2nd gear, which is actually the best deal in heavy traffic, this passing speed range is negotiated in 0.9 second less. Top speed in 1st is an honest if somewhat noisy put-put of 26 mph if you push it hard and if the mill is well tuned as that in our trial car seemed to be; 2nd cog wound up to a variable 50 to 52 mph; top gear, after just short of a mile windup, gave from 71 to 74 mph.

The car is surprisingly solid, well assembled, and very comfortable, altho my youngsters objected to the high window sill which restricted their view from the back seat. Armrests are built into the side panels in back (they're lacking up front) and one ashtray is provided aft on the right-hand side. I suppose this seeming oversight is predicated on the idea that if the rear is occupied, the likely adult passenger will sit on the right side since legroom there is greater due to the front bucket seats being individually adjustable.

Some drivers will probably object to sitting slightly sidesaddle in order to reach the offset foot pedals, and ladies especially will, or should, insist on the undersized, roller-type accelerator being replaced with a sensible pedal. The front wheel wells extend into the front compartment and the driver will find this nearly vertical panel a good left footrest. The headlight dip switch necessitates keeping the left foot semi-withdrawn but the right leg can be stretched out. Tall fellows will find that there is plenty of legroom in the front, a surprising amount in the back. A fairly low bridge when entering should logically discourage hats other than the crushable variety. Once inside, tho, rear headroom is a reasonable 35 inches, while the front seat offers about 4½ inches more. Seats are chair height; only the front windows roll down, but a draft deflector at the top more than makes up for the greenhouse rear.

I understand that all production imports will retain the too-small inside rear-view mirror but will have the very efficiently placed dual exterior mirrors. Of course the rear window could be made wider, but with loss of structural rigidity; it could not, however, be made deeper, or the nearly 12 cubic feet of luggage space would be lessened. Saab representatives offer no remedy for the persons who will dislike metering out small doses of oil as the fuel flows into the tank. I suggested the tool kit also contain a plastic container graduated for easy measuring of oil to obviate the need for mathematics at the pump. This was taken in good nature but I was told that strict observance of the 1/25 ratio could be approximated safely with a pint to each 3 gallons. A warning light flashes when the tank level drops to around 1½ gallons; otherwise the instruments are all the type that read right off.

Night driving disclosed no bothersome glare in the windshield, the dash being satin finished. The view under the hood discloses a compactness seldom equalled, with a tiny 12-volt battery and an efficient air induction system that defrosts the side windows as well as the windshield. The heater is excellent and the Arctic habitat of this car is said to be the reason for avoiding air cooling. Idling in traffic and in the garage produced no overheating, nor was there undue vibration. The engine designer, Hans Müller of West Germany, has given considerable attention to the 3 main bearings and to balancing. The overall performance and attractive price, plus more interior space than seems possible in so small a package, should attract dealers; if they play their cards right, they should see a warm reception for an unusually interesting and undeniably economical package that is as easy to drive as any we have experienced. It has faults, but they're all minor.

ACCELERATION From Standing Start
0-30 mph 5.6 0-45 mph 12.0
0-60 mph 24.9
Quarter-mile 22.6 and 57 mph

CLIPPER

continued from page 40

weight reduction with the new aluminum Ultramatic transmission housing also gives better weight distribution.

Test car's "split-traction" rear axle, despite rumors, is *not* the Hi-Tork unit described in August '55 MT. Clipper's differential uses cam, not spring, action to engage cone clutches, is referred to as an "unlocking" unit. Further explanation: wheels are "locked" when traveling straight ahead; wheel which loses traction is unlocked from drive action to keep it from spinning. Packard and Clipper differentials are now made by Spicer.

On the road, value of this axle was readily apparent when roads became icy; we could put the right rear wheel on the gravel shoulder for traction and the left wheel wouldn't spin helplessly on pavement as in conventional setups. Differential can cause slight snake-dance on glare ice when both wheels are able to spin; wheels take turns seeking (and getting) traction, can make rear end move from one side to the other. We couldn't feel advantage of having full traction at outside wheel in curves—but it's there, and with a standard-shift car you might be aware of this, possibly notice what seems like oversteer until you got used to it. Ultramatic, with its slippage and smoothness, doesn't have as close a relationship between throttle pressure and wheels.

Driving the Clipper, you find little changed from the '55. Seat is still high, vision excellent. Power brake pedal, low to floorboard, has no-grab action; accelerator pedal is still uncomfortably high for long-trip driving.

At the base of the 56's steering column is a rubber cushion which isolates road shock from the steering wheel (steel discs take over to form rigid coupling should cushion become torn or damaged). New, too, is 10 per cent reduction of steering wheel turns. Clipper power steering, again noticeably accurate, retains creditable amount of road feel. There's little play or looseness in system, no unexpected power boost as you start to turn the wheel, no binding or stiffness at any point. Wheel return after hard turns could be snappier. Altho the engine refinements upped output,

Clipper did well to hold its own against the '55 car in acceleration tests, for rear axle is considerably higher-geared. Standard ratio in '55 was 3.23, this year's is 2.87 to 1; test car ran 3.07 axle, one of 5 ratios offered.

Standing-start acceleration times shown were made in DRIVE range; average times in HIGH range ran 5.8 (0-30), 9.9 (0-45), 15.5 (0-60) and 20.6 (quarter-mile, with speed of 71 mph).

Under fade tests, Clipper's brakes weren't impressive except in the light of recuperative power. Fading early (1st noticeable on 4th stop from 60 mph, complete from 5th thru 10th stops), brakes recovered effectiveness much faster than we've come to expect. Swerve was nearly non-existent at all times.

Roadability was generally good. There's no loss of roadworthiness over winding, bumpy roads. Washboard roads caused wheel hop, at times moved rear end completely out of lane. Clipper suspension is on soft side of average, has low spring rate at wheels; this causes wheels to rise further, come back down slower, can make car move more easily than a stiffer one.

Clipper has no peer—unless it's Packard—in ability to smooth out dips and humps. Front end comes up out of a rise in a normal enough manner, but it never bounds back down. Instead, it waits until the rear end has braced itself and leveled off, then it comes down in an almost imperceptible movement.

At normal highway speeds car was disturbed only slightly by uneven road surfaces; at high speeds it was exceptionally stable; there was no chassis or steering wheel vibration, no tendency to float or crab as crosswinds caught it—a claim none of our other test cars have been able to make this year.

In tight turns, where most cars will bear heavily on the outside front wheel, Clipper uses torsion bars to resist weight transfer; they act as they do when front end tries to go down in a dip. Result is less lean and tire squeal, more tendency to drift or slide before the wheels lose traction with the road.

The very actions that make hard maneuvers less violent tie right in with good riding qualities. Nothing in Clipper's class is more level; body floats over railroad crossings, takes detours without pitching. But chassis shock-absorbing ability is bettered by others in this class, for you can still hear and feel wheel bounce over ruts and tarstrips, even tho body remains absolutely level. Wind noise was blessedly lower than in most cars tested; engine and transmission noise were noticeably less than in '55 Clipper, due largely to higher axle gearing and lower rpms. —Jim Lodge

DUNCAN HINES *Suggests*

MICHIGAN—

What more appropriate place for an auto enthusiast to spend his vacation?

IN THIS, the final article in our series, it seems only fitting and proper that we cater to the car enthusiasts by conducting them on a tour of Michigan, the heart of the automobile industry.

Altho most people think of Michigan only as a motor car center, it is also a delightful vacation state during the torrid summer months. Michigan actually is divided into 2 pieces; it is 2 large peninsulas separated by the narrow Straits of Mackinac and wrapped almost completely around by 4 of the 5 Great Lakes, as well as small Lake St. Clair and the Detroit and St. Clair rivers.

An appropriate place to begin our motor trip is on the Lower Peninsula, at

DETROIT. This is home base for Ford, Chrysler, General Motors and American Motors. The city abounds with fine restaurants, but space allows only a partial listing.

Places to Eat: Caucus Club, 150 W. Congress; **Crowley's Colonial Room,** on the mezzanine in the Crowley-Milner Department Store at 200 Gratiot; **Devon Gables,** 18 miles northwest of Detroit in Bloomfield Hills; **Fox and Hounds Inn,** 20 miles north in Bloomfield Hills; **Huck's Redford Inn,** 25241 Grand River Ave.; **London Chop House,** 155 W. Congress St.; **Paradiso Cafe,** 17630 Woodward Ave.; **Stouffers,** at 1501 Washington Blvd. and 625 Woodward Ave.; **The Stockholm,** 1014 E. Jefferson Ave.; and **Charlie Costello's Wedgewood Room,** 1465 E. Jefferson St.

Places to Stay: The 2 outstanding hotels are the Statler and Sheraton-Cadillac.

Just outside of Dearborn, which is 7 miles west of Detroit, we find Ford's mammoth plant at River Rouge, also Ford's Greenfield Village and Museum, a *must* for any motor car enthusiast. Other nearby attractions include Menlo Park, Edison Institute Museum, Ford's Experimental Test Track and Ford's Body Designing Building.

Place to Eat and Stay: Ten miles west of Detroit on Routes 10, 16, 24 and 112, at 20301 Oakwood Blvd., is the **Dearborn Inn.** This beautiful inn, of stately Georgian architecture, was built by Henry Ford. If you are staying overnight, it is advisable to have reservations. Breakfast 85c to $1.50, lunch $1.10 to $2.35, dinner $1.85 to $5.

Places to Stay: On Route 112, 7 miles from the Detroit city limits, near Greenfield Village, is the 8-unit **Detroit Motel,** at 25125 Michigan Ave. It has radios and TV, a playground and some family units available. At 25925 Michigan Ave. is the **Dearborn Motel,** a ranch-type brick building with 11 units. **The Bungalow Motel** is farther west, at 28525 Michigan Ave.

Now let's continue up the Lower Peninsula and take in the National Forest Festival held at Manistee in July. Manistee National Forest, once the scene of busy, boisterous lumbering operations, is now a reforested favorite of sportsmen. The many lakes and streams are perfect for fishing and boating.

Continuing north along the west coast, we come to

TRAVERSE CITY, where the Cherry Festival is held in July. The whole area is covered with orchards.

Place to Eat and Stay: The **Park Palace Hotel** is a well-known and comfortable spot.

At the northern tip of the Lower Peninsula, a ferry can be taken across the Straits of Mackinac to St. Ignace on the Upper Peninsula, or to Mackinac Island.

Place to Eat: Facing the ferry in Mackinac City is **Teysen's,** a cafeteria with gift shop in connection. They feature a variety of crisp salads, fresh vegetables, individual chicken pies, fish and steaks. All baking is done on the premises.

MACKINAC ISLAND, situated between the Upper and Lower Peninsulas, is a unique spot. The horse-drawn fringed surrey still exists here, and the automobile is unknown. The result is a leisurely island, given over to relaxed pleasure. Hotels, parks, gardens and many recreational facilities in a beautiful setting give a distinctive air to Mackinac. Yachts in the harbor, the enormous and luxurious **Grand Hotel,** and the lake background give Mackinac vacation atmosphere.

Place to Eat: Individual chicken pie, broiled lake trout, broiled whitefish, steaks and chops, blueberry muffins, homemade pastries and desserts—this is the fare that awaits you at **The Carriage Lantern.** Lunch 90c to $2, dinner $1.50 to $5.

ST. IGNACE is our port of destination on the Upper Peninsula.

Place to Stay: On Route 2, at 797 N. State St., is **Dettman's Motel.** It is situated in spacious grounds, and has 40 air-conditioned units. Reservations are advisable.

The eastern end of the Upper Peninsula abounds with such attractions as Hiawatha and Marquette National Forests; impressive, tree-framed Tahquamenon Falls; the Pictured Rocks, colored caves and cliffs carved thru the years by Lake Superior's waves; Grand Marais, like a seaside town with its dunes, sands and fishing fleets; Sault Ste. Marie, Michigan's oldest city, where the world-famous locks handle many, many ships.

The Upper Peninsula State Fair is held in August in

ESCANABA, on the southern shore of the Upper Peninsula.

Place to Eat and Stay: The **Hotel Sherman** is a small, nicely furnished 50-room hotel. Single with bath $3-3.50, double, $5-6. Reservations are requested.

Place to Eat: On Routes 2 and 41, at 223 Ludington St., is the House of Ludington. Specialties are whitefish, chops, chicken and prime steaks. Breakfast 85c to $1.35, lunch $1.50 to $2.25, dinner $3.25 to 5.

Places to Stay: On Routes 2, 35 and 41, at 201 N. 23rd St., is the **Blue Roof Cabins Motel.** On the same routes, 2 miles north of town, is the neat and attractive 16-room **Sunset Motel.** Three miles farther north of town is the **Birch Creek Motel.**

Continuing west, the next stop is

IRON MOUNTAIN. We are now in the rugged forest land, where the Porcupine Mountains close in on the Lake of the Clouds. The Ottawa National Forest reminds the visitor that Michigan was formerly a place where the tales of Paul Bunyan grew as tall as the trees.

Place to Eat: The **Dickinson Hotel** is at 101 West B St. Specialties are homemade soups, broiled steaks and chops, whitefish and trout, roast beef, and their own bread and rolls. Breakfast up to $1, lunch 95c to $1.35, dinner $1.95 to $3.95.

Place to Stay: On Routes 2 and 141, one mile east at 1516 S. Stephenson Ave., is the **Town and Country Motor Court.** Reservations are requested.

At the northernmost tip of the Upper Peninsula is the slender

KEWEENAW PENINSULA, which reaches into Lake Superior. This is known as Copper Country. Woods, lakes, harbors, mountains and scenic roads make this beautiful vacation territory in which you can profitably spend several weeks.

Place to Eat and Stay: At Houghton, in the heart of an evergreen forest, is **Johnson's Rustic Resort.** Unlike most rustic interiors, the dining room sparkles with bright cleanliness. Specialties include fricasseed chicken with dumplings and rice, baked fish of all kinds, and pies, hot breads and cakes. Breakfast to $1.25, dinner from $1.75 to $3.50.

At Eagle Harbor, the northernmost spot on the peninsula, you will find comfort at the **Lake Breeze Hotel and Cottages.**

Circling the north shore we come to

MARQUETTE on the eastern side, the heart of the fishing and deer-hunting country. Here in the wilds, on Front St., you will find a city hotel—the **Northland**—with very reasonable rates.

If you want a change of pace from motoring around the state and would like to loaf, there are many fine resorts where you can stop and stay. On the Upper Peninsula there are: **Blaney Park,** 23 miles northeast of Manistique; **Happy Hank's Ranch** at Brevoort (22 miles northwest of St. Ignace); **Islington Hotel** (at Cedarville), 37 miles east of St. Ignace; **Birch Lodge** and **Phil DeGraff's Lodges** at Trout Lake (30 miles northwest of St. Ignace); **Manakiki Lodge** at McMillan (50 miles northeast of Manistique); and **Webers Resort** at Marenisco (25 miles southeast of Ironwood).

On the Lower Peninsula there are: **Cedar Lodge** at Northport Point (28 miles north of Traverse City); **The Hilltop** at South Haven (23 miles northeast of Benton Harbor); **Thomas House** at Walloon Lake (8 miles south of Petoskey); and **Michillinda Beach Lodge** at Whitehall (14 miles north of Muskegon).

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Shows altitude at which car is traveling instantly. Also acts as weather barometer when car is standing still.

No. 492—	500- 5,000 ft.	POST	Ea $10.75
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FORD MERCURY CHEVROLET PLYMOUTH

Chrome plated heavy gauge steel. Replaces original bars. Gives car New appearance. State year

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CHROMED CUSTOM GRILLES

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51-52 CHEV.
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Specify car and year

Customize your car with these new highly polished grilles. Replaces original and gives your car that "new" look. Easy to install with full instructions.

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Oldsmobile	1949-54	Chev Truck	1949-55
Packard	1951-54	Ford Truck	1949-55
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- Prevents piston slap
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- Most effective gas and oil seal ever known
- Prevent metal-to-metal contact thereby eliminating wear, prolonging life of motor

Simply Press Tube Contents Into Spark Plug Holes—That's All! One tube enough for 6 cylinder car

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HIGH COMPRESSION HEAD GASKETS EXTRA THIN .020" SOLID COPPER

These copper gaskets are only .020" thick. It is the same as milling heads. .040" to .050" and "hope up" the motor to give amazing acceleration power and mileage. State exact year, make and model when ordering. (If car is V8 type two gaskets are furnished at no extra charge.)

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NEW OIL DRAIN PLUG

DESTROYS ENGINE ACIDS

STOPS ENGINE SUICIDE

Self-Sealing Threads Prevent Oil Leaks

Metal-coated Eliminates Engine Acids

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Automotive engineers have discovered that the corrosive sulphuric acid produced by fuel combustion is the greatest cause of engine wear. Your car engine produces an average five gallons of powerful sulphuric acid annually! It eats away at smooth metal surfaces, forms sludge and carbon, causing gradual power loss and increased gas and oil consumption.

FOR A CLEANER, MORE EFFICIENT ENGINE

Now you can prevent this damaging acid action with a simple, inexpensive crankcase drain plug—the new Reactor Plug. **The Reactor Plug embodies a metal catalyst which destroys all engine acids!**

The Reactor Plug also features a powerful, permanent Magnetic Attractor which traps damaging metal particles—filings, shavings, chips normally resulting from engine operation.

SAVES GAS, OIL AND REPAIRS ● With acids and metal abrasives removed from the oil, your engine runs smoother and more efficiently for thousands of extra, trouble-free miles. Sludge, varnish and carbon deposits caused by acids do not form on piston rings, valves, spark plugs and other parts. **You enjoy greater gasoline economy and increased horsepower, plus savings on engine repairs and overhauls.**

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For all makes and models of cars. State year, make, and model when ordering.

No. 308 **$2.49** Each Postpaid

Continental Face Plate & Stainless Steel Tire Ring

Give your Continental Kit "New" life with these gleaming beauties. Face plates are heavy gauge steel prime coated and cover entire wheel. Gleaming Stainless Steel Rings. State tire size wanted.

No. 305—Solid Face Plate. . . . . $ 6.35

No. 306—Stainless Rings 15.25

CHROME PLATED FACE PLATES

State tire, size, solid or open face. No. 308 . . . . . **$19.95**

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ROAD KNIGHTS — No. G Road Knights	BEACHCOMBERS — HONOLULU — No. H Beach Combers
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Burgundy Maroon	Battleship Grey	(Light Green)
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Complete Cylinder & Ring Job, while you drive! Just drop these pellets into spark plug holes & GO! Stop Oil Burning. Increases Gas Mileage. Restores New Car Power. Makes Motor Run Quietly. Eliminates Exhaust Smoking. Reopens your engine the simple, speedy, low cost way. A factory-smooth, metallic layer is laid onto the pitted, scored & worn cylinder walls, & piston rings, restoring them to original size, shape and effectiveness. This is not an oil additive, a chemical mixture or a temporary tune-up.

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Eliminates those carbon deposits that wear out your motor. Solatone is neither a filter nor a solvent. It is a catalyser which consists of a hermetically sealed cell. When your gasoline contacts this cell, all carbon is reduced to soft non-abrasive particles that are blown out the exhaust without causing motor harm. Results in greater valve, piston, ring life plus smoother combustion. Saves gas too. No moving parts to get out of order. Just drop Solatone in your tank. Lasts for the life of the car

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- BETTER PERFORMANCE AND GAS MILEAGE
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Dual exhaust systems guarantee more horse power, saves your gas, lets your engine breathe properly. Eliminates costly back pressure. Gives your car real-up-to-date "ring". Choice of regular Hollywood Steel packed or Deep Tone Fiber Glass Mufflers. All custom fit. Easy to install with complete instructions. Be sure to state year, make, model, body style of your car. Also state if you have power brakes, power steering, stand-ard or overdrive transmission.

These sets are the most efficient and finest made—so designed and constructed to:—

- Increase Horsepower as much as 10%.
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Superior in every way because they are:—

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" exc. convert.	12.85	22.85	26.95
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Chrys. 51-55			
" exc. convert.	10.75	42.50	26.45
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" exc. convert	13.95	39.45	29.25
Ford V8, 35-53	9.75	15.35	19.95
Ford V8, 54-56	10.45	17.35	22.45
Lincoln 49-51	14.95	24.95	25.95
Lincoln 52-54	19.95	40.35	42.75
Mercury 39-53	10.45	17.35	20.35
Mercury, 54-56	12.45	22.15	23.95
Olds. 49-54	12.45	19.95	23.85
Olds. 54-56	12.45	20.35	23.75
Pont. V8, 55-56	12.35	20.95	24.35
Plym. V8, 51-54	12.35	19.75	23.85
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PIN POINT ADJUSTMENT NUT FOR FRONT WHEELS

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- Easier steering, smoother brake action.
- Reduces tire "cupping" plus saving on tires up to 5000 additional miles per tire.

The Educated Nut replaces the castellated front spindle nut on cars and trucks and provides a quick way to make precision bearing adjustments. It consists of two sections with 84 points of adjustment instead of the usual six as on the ordinary castellated nut.

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Porous bronze Element never wears out or needs replacement. Lasts for a lifetime of the car. Element removes all harmful particles yet retains your expensive additives. Lets you drive up to 10,000 miles without changing oil. Fits all cars except those with Full Flow Oil System listed below. State year make, model of car.

No. 116—Regular $6.95. Element only. POSTPAID **$4.95**

POROUS BRONZE FILTER ELEMENT FOR FULL FLOW OIL SYSTEM — Fits V8 Buick, Olds., DeSoto, 52-56; Plym. 55-56; Ford, Merc. 54-56, Chrys. 51-56, Dodge 53-56; Ford '6' 52-56, Lincoln 52-56, Chrys. exc. V8 46-56; Chev V8 1956.

State car, year and model.
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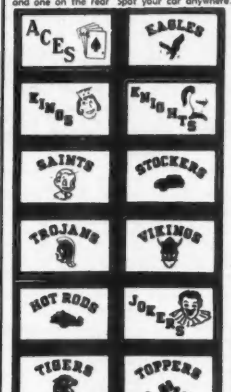
They're new! They're different! They stand out! Individualize your car. Hang one on the front and one on the rear. Spot your car anywhere.



Specify Plaque
No. 610—POSTPAID **$1.98**

Porous Bronze FILTER ELEMENT with LIFETIME ELEMENT

For all Cars. Increases gas mileage. Keeps carburetor in perfect tune. Gives you extra mileage, power and pick-up. Lifetime Element screens out all harmful particles in your gas, results in better vaporization—prevents fouling. Easy to install.

No. 182—Regularly $4.95. Now only, POSTPAID **$1.95**

COIL SPRING WEDGES

Compensate for the natural sag of front coil springs. Restores original front end position.

Easy installation between coils with hammer as illustrated. No. 83—POSTPAID.

Set of 4 . . . **$1.49**

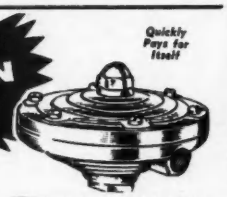
HOT SPARK INTENSIFIER

For all Cars. Peps up all ignition systems. Results in faster starting, smoother idling and better gas mileage. Overall improved motor performance. Attaches easily to your present coil without special tools. Also improves high speed performance and stops plug fouling.

No. 319
Each, POSTPAID . . . **$2.49**

SAVE 1 GALLON IN 10!

Quickly Pays for Itself



"Econ-o-Miser" Fuel Pressure Regulator

Carburetor works at maximum efficiency at 2 lbs. pressure. Without pressure regulator, fuel pump at high speeds can develop pressures up to 40 lbs., forcing gasoline through carburetor and causing fuel waste, loading up, flooding, stalling.

Here's a remarkable development that will be standard equipment on all new cars within the next 5 years the amazing new Econ-O-Miser that eliminates gas waste, saves up to 25% on gas consumption!

The precision-built Econ-O-Miser incorporates a large and sensitive diaphragm which causes an absolutely even fuel flow under all conditions, permits the ideal fuel-air mixture for top carburetor efficiency.

Gives Faster Starts and Smoother Idling
The Econo-O-Miser is guaranteed to give you smoother, faster acceleration. It eliminates excessive pressure on the carburetor, takes out "surge," prevents stalling, vapor lock, and flooding. You can easily install the Econ-O-Miser yourself.

Try the Econ-O-Miser at Our Risk!
If it doesn't pay for itself in gasoline savings in the first 5,000 miles of driving, return it for a full refund of your purchase price!

Some car-owners report mileage gains of 20% to 25%. Think of the money saved—$40 or $50 every few months! Why not keep this money in your own pocket by installing an Econ-O-Miser right away?

WHAT THE ECON-O-MISER DOES FOR YOU:
1. Smooths out fuel pump pulsations—eliminates surge.
2. Eliminates excessive pressure and loading of carburetor.
3. Prevents annoying vapor lock.
4. Gives you smoother idling and faster starts.
5. Prevents flooding and stalling due to excessive pressure.
6. Saves gasoline—up to 25%!
7. Reduces carbon formation—helps keep engine clean.
8. Saves frequent carburetor adjustment
9. Reduces fire hazard.
10. Automatically adjusts for any altitude.

For All Makes and Models of Cars & Trucks.

No. 526—POSTPAID . . . **$6.95**

Extra DEEP Fender Skirts FOR ALL MODELS 1955-56 FORDS

Large Full Custom Styling. Flush Mounting.

EXTRA DEEP 2½ to 3" deeper. Has that distinct type Flare. Full-Rich looking. Gives the car that distinctive Continental Look.

No. 358—PAIR **$10.95**

For 1952-56 FORD All Models 6 Pc. TAIL LIGHT KIT

Gives That 1955 Olds "Look" To 52-56 Fords

Kit consists of 2 lenses, 2 chrome rims, 2 adapter plates. Easily installed in place of present rims without drilling or cutting. Can also be welded or leaded to the fender without further alterations. Lenses legal in all states. Adds length to body appearance & styling.

No. 481—52-54 / No. 386—55-56 | **$9.95** POSTPAID

FLARED FENDER SKIRTS

All metal. Choice of Prime or Chrome Plated finish. Fits following cars.

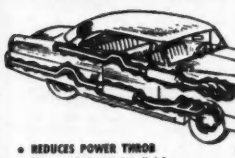
49-54 Chev. exc. Bel Air	49-51 Ford	49-50 Olds 76, 88
46-54 DeSoto	55-56 Ford	46-52 Plymouth
46-52 Dodge	46-54 Fraz.	49-52 Pontiac
	46-54 Kais.	52-54 Willys

PRIME
No. 39—Pair . . . **$16.95**
CHROME
No. 389—Pair . . . **$14.95**

52-54 FORD & MERCURY—prime . . . **$7.95**
No. 82—Pair . . . .
1955 CHEV., prime. No. 118, pair . . . **$11.95**
1955 MERCURY, prime. No. 119, pair. **$8.50**
52-54 PLYM., prime. No. 120, pair . . . **$8.95**
55-56 PLYM., prime. No. 121, pair. . . **$8.95**
CUSTOM CHROME PLATED FLARED SKIRTS for cars above, exc. Merc. No. 148, pr. $14.95

EXHAUST HEADER SYSTEMS

- INCREASE HORSEPOWER
- Relieves Back Pressure
- INCREASES SPEED
- BETTER PERFORMANCE AND GAS MILEAGE



- REDUCES POWER THROB
- Heat resisting Paint finish

These sets are the most efficient and finest made—so designed and constructed to:—
- Increase Horsepower at Least 10%
- ELIMINATE BACK PRESSURE
- Give Higher Top Speed • Better Idling
- More Miles per gal. Smooth Performance
- Precision Built for Easy Installation

Superior in every way because they are:—
- Constructed of Heavy Gauge Steel.
- Designed with smoother curves for easy flow of exhaust.
- Ground Flanges for perfect alignment and leakproof installation.

You can install this set in less time because it is made with special longated holes for easy adjustment. Check our low prices — Order Now!

ALL HEADER SETS CONSIST OF
- Dual Side Tail Pipe • Pair Headers ★
- Clamp Set • Pair Extensions ★
- Easy-to-follow instructions

Choice of Headers without Mufflers, with 2 Hollywood Steel Packed, with 1 regular, or with 2 glass packed mufflers.

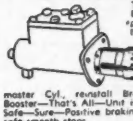
★ Chevrolet 6 needs only 1 header & extension & includes built-in heat riser with twin equalize tubes.

CUSTOM DUAL HEADER KITS

CAR & YEAR	V8	Less Mufflers	No. 260 with 1 Reg. Muffler	No. 88 with 2 Steel Mufflers	No. 270 with 2 Glass Mufflers
Buick 53-55		$53.95	$66.95	$68.10	$63.85
Cad. 50-51		44.95	55.35	56.95	
Chev. 1955		37.45	43.95	47.95	47.35
Chev. 6, 41-56		36.75	42.95	43.95	44.65
Dodge 53-54 exc. convert.		51.50	63.85	63.25	61.40
Ford V8, 35-53		26.45	31.95	36.15	36.35
Ford V8, 54-56		33.45	39.25	45.45	43.35
Lincoln 49-51		43.95	54.95	56.95	
Lincoln 52-54		49.95	54.95	62.75	
Mercury 35-53		26.45	31.95	36.15	36.35
Mercury 54-56		33.45	39.25	45.45	43.35
Olds. 49-55		34.45	41.50	45.85	44.35
Stude. 51-52		60.50	46.35	51.25	50.40
Stude. 53-54 Coupes		52.45	59.35	63.15	62.35

Be sure to give make, year, model, body style & state if you have Power Brakes, Power Steering, Standard or Automatic Transmission.

NEW—EASY TO INSTALL BRAKE POWER BOOSTER



Twice the Braking Power. Reduces pedal pressure. Easy to install.—Simply Remove Brakeline from Master Cyl. Install Brake Power Booster in master Cyl., reinstall Brakeline to Power Booster—That's All—Unit is ready to operate. Safe—Sure—Positive braking action. Provides safe smooth stops.

This new hydraulic auxiliary unit with the new positive action makes its possible for many cars to have the advantages of expensive power brake systems at extremely low cost.

State Year, Make, Model of car.

To fit all cars without Power Brakes. No. 417—POSTPAID . . . $9.95

OVAL CHROME PLATED DUAL EXHAUST KIT "DUAL LOOK" for Single Exhausts

Universal for all cars

Gives that mellow, purring tone of super power at low cost. Easy to install. Flexible steel tubing. 2 Chromed flat oval outlets makes single exhausts look like 1956 Dual exhausts.

No. 587—Outlets 6" long, 3½" wide, 1¾" opening.
POSTPAID Per kit . . . **$8.25**

No. 588—Outlets 9" long, 5" wide, 3½" openings.
POSTPAID Per kit . . . **$8.85**

Continental Type EMBLEMS FOR ALL CARS

Use on hoods, fenders, skirts, trunks, etc. Triple Chrome plated emblem — black paint filled. 3½" x 4½" wide. Self adhering —remove paper backing—just stick on car. Holds permanently. Same as above with Base.

No. 530—POSTPAID, Each . . . **$1.49**

Same as above with Base to mount on Hood or Fenders.

No. 533—POSTPAID, Each . . . **$1.98**

DUAL REAR AERIAL KITS

New 1955—Fits All Cars
1. Two 3 section aerials, 13" high when collapsed. Complete with a dual 22 ft. lead. Ready to hook up on any radio.

No. 86—
POSTPAID **$7.35**

2. Dual HIDEAWAY aerials, 6½" high when collapsed. Complete with a dual 22 ft. lead.

No. 231—
POSTPAID **$12.50**

TWIN AERIAL FALSIES—6½" high. Chrome plated. Easily installed. Do not connect with radio.

No. 266—POSTPAID **$2.19**

FRENCH LOUVER - Flare Model FENDER SKIRTS

Prime finish with rubber beading. Regular type.

Chev. 1955	Mer. 52-54	specify car, and year
Ford 55-56	Mer. 49-51	
Ford 52-54		
Ford 49-51	Ply. 55-56	

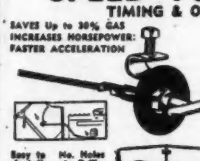
$14.95

No. 631—Shallow Box type—Universal for:

Chev. 49-54 exc. BelAir	Pont 49-52	For All Listed Here Pair
Chrys. 46-50	DeSoto 46-54	
Dodge 46-52	Ford 55-56	
Kaiser 46-54	Olds. 49-50	
Frazer 46-54	model 76, 88	
model 76-88	Plym. 46-54	**$14.95**
	Willys 52-54	

SPEED TUNER Control for Distributor TIMING & OCTANE SELECTOR

SAVES Up to 30% GAS
INCREASES HORSEPOWER:
FASTER ACCELERATION



Easy to Install No. Holes to Drill. Mounts Anywhere on the Dash

- More Speed • More Power • More Economy
- Smoother Engine Performance & Control

Fine tune your engine while you drive. Gives you complete control of your distributor, you can easily advance or retard your spark from inside your car while driving. By a simple turn of a knob you can change the setting of your distributor, for better and smoother performances for all various kinds of driving, such as City driving, Highway driving at high speed, Heavy loads, Temperature and altitude, Hilly or mountainous driving, wet, muddy and slippery pavement.

Easy to install, no holes to drill, no special tools needed, easy to follow instructions, will not interfere with present automatic advance and retard.

FOR ALL CARS & TRUCKS
No. 364—POSTPAID . . . . . Each **$6.95**

JC WHITNEY & CO USE HANDY ORDER BLANK
1917-027 Archer Ave., Chicago, Ill.

USE THIS HANDY ORDER FORM — MAIL TODAY!

JC WHITNEY & CO 1917-027 Archer Ave., Chicago 16, Ill.

Please ship following order on money-back guarantee of satisfaction:

Quantity	Stock No.	Description	Price

I Enclose $_____ to cover payment in full (or 25% deposit if C.O.D.)
(NOTE: WE PAY POSTAGE on items marked **POSTPAID** when payment accompanies order. You pay shipping charges on items not marked POSTPAID. If C.O.D. order, enclose at least 25% deposit, pay balance plus shipping charges upon delivery.)

Name_____

STATE—My car is a_____ Year_____ Model_____ No. of Cyl._____

Address_____

City_____ Zone_____ State_____

☐ Catalog sent Free with your order. Check here if you want Catalog only—Send 25c.

Shop by Mail for Fast Service - Save Time & Money

SATISFACTION GUARANTEED or your MONEY BACK

For Keeping Fog and Steam from Forming on Window Glass

Just one wipe of this amazing cloth keeps all windows, mirrors from fogging or Steaming or frosting up. Drive with your windows closed, heater on. Glass will not Fog or Steam up. Be Safe, drive with crystal clear windows.

No.711 Regular Size. Each POSTPAID **$1.00**

Hurricane MUFFLER BI-PASS KIT

Gives your car the power & zip of straight pipe performance. Complete unit includes dash controlled cut-in and cut-out with 48" —1¾" flexible tubing to by-pass your muffler. All parts & instructions included. Fits all exhaust pipes 1¾" to 2¼".

Use 2 for dual exhausts. Get that open-pipe roar

No. 129—POSTPAID **$8.70**

The FLARE of the FUTURE TAIL FINS

Gives cars that longer, sleeker look. Handsomely styled. Durable all steel construction, perfect fit. TRIPLE CHROME PLATED or Prime, ready for painting. Simple installation instructions included. Fits the following cars:

Buick 54-56, CHEV. 53-56, DeSoto 53-56, Dodge 1955 — FORD 52-56 (exc. 55 Fair), Mercury 52-54, NASH 51-56, OLDS 52-56 — PLYM. 1955 Stude 50-56 (exc. models with top moulding)

No. 713—CHROME Per Pair **$13.95**

No. 713—PRIME Per Pair **$11.95**

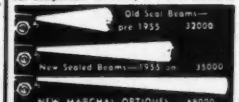
SUPER POWER Sealed Beam Headlight Bulbs

The New Imported Marchal Optiques

The Fantastic Light

The end of your nite driving worries. No longer do you have to worry about the ordinary feeble headlites you now drive with. These imported Sealed Beam replacements will give you twice the present driving lite both in distance and brightness. This long, low beam does not interfere with oncoming cars either. This allows for safer nite driving at regular or high speed driving. Eliminates overdriving of lights. Marchal Optiques are an ideal replacement for current or pre-55 Sealed Beams. They fit all cars normally equipped with Sealed Beams. These lights have an original Recuperator system that makes full use of normally diffused light giving greater light intensity. New type Reflector gives terrific bright light. Low electrical Consumption. Specially designed Bulb cuts down headlight "dazzle."

For Comparison: Efficiency in French Candelas



State 6 or 12 Volt.
No. 681—POSTPAID Pair **$20.00**

STYLE LEADER CONTINENTAL KITS

IT'S NEW . . . IT'S BETTER . . .

$49.95

KITS SUPPLIED WITH SOLID FACE PLATES. (Illus.) IF YOU WANT OPEN FACE PLATES, WHICH SHOWS YOUR HUBCAP, STATE ON YOUR ORDER.

Choice of Prime Tire Ring or Stainless Steel Tire Ring.

Complete—Beautifully styled—Carries spare wheel—Not a dummy kit . . . At this terrific price . . . Only by buying in tremendous quantities could we bring you this exceptional Value. This Continental Kit has many features never before found in others. Tire sets at right height to match rear of car. Tire is tilted at correct angle to conform with body lever. Tire tilts back and locks open for easy use of rear compartment. Has rugged construction for durability. Trouble free operation and lasting quality. Has self-adjusting toe-touch locking device, locks in both open and closed positions for easy tire removal. Simple 3 point installation, no holes to drill, locks or gadgets to mount on deck lid, as nothing touches or rests on your car body. Full wrap around gravel shields—20 gauge tire ring and full face plate! Each individual Continental Kit made to enhance your car. Not a universal but a full custom for each car. Entire unit pre-assembled—100% rattle proof. Full easy step by step instructions. All parts baked prime finish for easy painting. Be the first to get this terrific value.

State Year, Make, Model and Choice of Open or Solid Face Plate. With Prime or Stainless Steel Tire Ring.

Car & Year	Stk. No.	With Prime Tire Ring Price	Stk. No.	With Stainless Steel Tire Ring Price
Buick 52-56 Spec., Cent., Super, Roadmaster	642	$ 69.95	643	$ 79.50
Cadillac 54-56	644	84.50	645	94.50
Cadillac 1956, All	646	122.50	647	132.50
Chevrolet 49-54	648	62.50	649	72.50
Chevrolet 55-56	334	69.95	335	78.95
Chrysler 1956	650	79.50	651	89.50
DeSoto 1956	652	69.95	653	78.95
Dodge 1956	642	69.95	643	79.50
FORD 49-54	648	62.50	649	72.50
FORD 55-56	654	69.95	655	78.95
Lincoln 54-56	650	79.50	651	89.50
Mercury 54-56	642	69.95	643	79.50
OLDS 54-56	642	69.95	643	79.50
Plymouth 55-56	648	62.50	649	72.50
Pontiac 52-54	642	69.95	643	79.50
Pontiac 55-56	642	69.95	643	79.50
Studebaker 1956	642	69.95	643	79.50

NEW EXHAUST CUT-OUT

Exhaust tone is controlled from the dash. Can be used as a cut out in the country and closed in restricted areas. Or may be used to operate two different toned mufflers. Well constructed of heavy plate steel. Strengthens the exhaust pipe.

UNIVERSAL—Fits All Cars.
No. 66—POSTPAID. Each **$3.42**

"Hollywood" WOLF WHISTLE

Intake Manifold Whistle! Gives the Wolf Call. Imitates a Barking Dog and other Effects. Simple to install — works off the intake manifold.

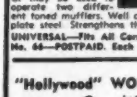
No. 61—POSTPAID. Each **$3.42**

NEW INTERIOR TRIM QUILTED 3-TONE

Custom styled Door Panel Upholstery trim for all cars except 54-56 Hudson. Some styling as the newest 1955 & 56 cars. Includes 2 panels 32 x 50 to cover 2 doors. Beautiful 2 tone heavy-weight upholstery fabric in Bolero White and Ebony Black, 3 in. center panel in a choice of Metallic blue, green or flash red. State choice. Easy to follow instruction manual included. No special tools or sewing needed. Install in minutes.

No. 339—POSTPAID. Pair **$6.95**

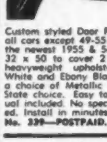
AUTOMATIC TRUNK LIGHT



Completely automatic operation. Equipped with Minneapolis - Honeywell Mercury Switch. Simple installation. Lights when trunk lid is opened. Fits any car—all necessary wire included. Completely self-enclosed unit.

No. 141—POSTPAID. Each **$1.59**

Increase Load Capacity 750 to 1500 Lbs. with Quick Change HELPER SPRINGS



750 to 1500 lbs. Extra Carrying Capacity for Cars, ½ & ¾ Ton Trucks. Don't Let Heavy Loads break the springs on your car or truck. Extra Horsepower. Spring action increases with load. Extra Strength for Heavy Duty use. Once on they can be installed or removed in a jiffy. For all Cars, except Buick, ½ & ¾ ton pick-up trucks. Has cast base, complete with all "U" bolts, special brackets, necessary parts and installation instructions. 100% Universal. Specify Make, Year & Model when ordering.

No.	Extra Load Capacity	PAIR
598.	750 lb. Extra Capacity. Postpaid.	$9.95
599.	1000 lb. Extra Capacity. Postpaid.	14.95
600.	1500 lb. Extra Capacity. Postpaid.	19.95

AH-OOO-GAH Chromed HORN

Here it is for the sport car enthusiast. Not a vibrator or other substitute but a genuine motor driven horn.

No. 60—POSTPAID.
State 6 or 12 VOLT **$12.60**

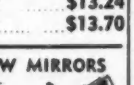
HI-SPEED ELECTRIC SIREN

Developed especially for the U. S. Navy & Coast Guard. Now used by hundreds of Fire & police departments, buses, ambulances, etc. Complete with bracket, screws, 10 ft. of cable & push button. Green Enamel.

No. 71—POSTPAID.
6 VOLT, Each **$13.24**

No. 91—POSTPAID.
12 VOLT, Each **$13.70**

REAR-VIEW MIRRORS



Special Curved Convex Glass Gives Curb to Curb Vision — Eliminates Blind Spots — Wider Range of Vision thru the Larger Windows of New Cars. CURVED MIRROR — 2½" x 10" in Metal Case Painted a Neutral Grey Hammered Finish with a Plastic Rim to Match.

POSTPAID

No. 99—Fits all cars. Give exact year, make & model. Each **$2.94**

MUSICAL AUTO HORN

Plays the Hootchy-Kootchy Dance or Pick out other tunes, like on the Piano. Easy to play. Just pick out the tunes on numbered keys.

Horn is completely wired and assembled — Easy to install. SIZE OF HORN—8½"

No. 344 **$17.95**

DRY WASH CLOTH

Wash & Cleans Car without water. Preserves and Protects car finish. Leaves car finish clean & shining.

With this amazing chemically treated cloth (guaranteed not to injure car finish) you can easily keep your car clean all the time in any kind of weather.

Eliminates Back Breaking effort of washing & polishing. Cloth does both in one easy operation, merely wiping cloth across finish to be cleaned. Leaves finish clean and Polished.

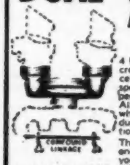
No more mess—no more water buckets, soap, hoses or messy rags to contend with.

No more wet hands, wet feet, or wet clothes, ideal for cleaning in any kind of weather. Long lasting cloth. The more you use it the better it works.

No. 613—Regular Size.
POSTPAID. Each **$1.00**

No. 614—Giant Economy Size 2½ Times Regular. Each. POSTPAID **$2.00**

DUAL COMPOUND Carburetion MANIFOLD



4 barrel performance. Increased power. Fast acceleration — High top speed—Maximum engine performance — Economy. All at the tip of your toe when you install this new dual compound carburetion system.

This new type manifold enables you to convert your present old style manifold to a highly efficient dual carburetion system. Easily installed—easily removed. Can be adjusted to use one carburetor for normal city driving and have second carburetor cut in for fast acceleration or high top speed, or both carburetors can be used at same time, giving same performance as a 4 barrel job. Lightweight aluminum—Satin finish. Any 3 or 4 bolt dual carburetor can be used but we recommend the Ford-Stromberg 97 or 81 (60 H.P.) be used for best results. Can be adapted to fit all 8 cylinder cars using a 3 or 4 bolt—2 dual carburetor. Can also be furnished for 6 and 8 cylinder cars using a single throat carburetor. Manifolds furnished less linkage. Requires low type air cleaners.

No. 626—Ford V8, Mercury 32-53 and all 8 cylinder using 3 or 4 volt dual carburetor. POSTPAID, Each **$9.95**

No. 627—For 6 and 8 cylinder cars using single 1-11/16" throat carburetor with in line throttle linkage.
Each. POSTPAID **$9.95**

No. 628—For 6 and 8 cylinder cars using single 2-15/16" throat carburetor with in line throttle linkage.
Each. POSTPAID **$9.95**

Can be adapted to cars with cross head throttle linkage but requires some mechanical changes.

Compound Throttle Linkage for above Manifold.
No. 629.
Each. POSTPAID **$3.85**

SIDE WALL TIRE DISCS

Convert Black Tires to White Side Walls or to Pastel Colors.

100% Pure LATEX Rubber NOT A PAINT

Choice of Genuine 100% White Latex Rubber or 4 Beautiful Pastel Colors. Can be put on in a minute by anyone. Permanent Adhesive Process.

Fits all 15" and 16" Tires

Every black tire can become a luxury accessory with very little effort. Kit comes complete with cement, roller and all other necessary accessories for Simple and Easy installation. Once on the tire it will not peel off.

WHITE SIDEWALLS

No. 196—		No. 286—	
Set of 4 POSTPAID	$9.95	Set of 5 POSTPAID	$11.95

New "KOLORWALLS"

Choice of Light Blue, Light Green, Yellow or Pink. Be the first to have these beauties. State color wanted.

No. 287—		No. 288—	
Set of 4 POSTPAID	$11.95	Set of 5 POSTPAID	$13.95

SELECT-O-PITCH

For 55-56 BUICK AUTOMATIC Transmissions

Lets you shift into low with your left foot independently of the accelerator pedal, thus increasing the handling and safety of the car during acceleration. Better gas mileage because you can shift into low pitch without touching accelerator. Overacceleration wastes a lot of gas by letting too much fuel into combustion chambers. This washes lubrication from cylinder walls causing excessive engine wear. Select-O-Pitch eliminates this danger. Select-O-Pitch gives you complete control of your engine, allowing you to match your low pitch and acceleration. Complete with all necessary parts. Easily installed.

No. 616—Each POSTPAID **$9.95**

BURGLAR ALARM

6 & 12-VOLT

Completely Automatic Blows Horn if the Car is Molested.

No. 17—POSTPAID. **$2.95**

LEFT FOOT ACCELERATOR

FOR NEW DRIVING COMFORT!

Use the left foot—rest the right foot. Easily installed in any make or model car—with or without clutch.

Easy to install — Just clamp on accelerator and tighten screw.

No. 42—POSTPAID, Each **$2.49**

BODY OR FENDER MIRROR

ADJUST THE RING! ADJUST THE HEAD!

Fits on the body or fender, right or left side, of all cars. 4" replaceable head, 4½" diam. chromed ring. Non-glare glass mirror. Install on wrap-around or standard windshields.

No. 133—POSTPAID, ea. **$4.79**

NEWEST AUTOMOBILE Chrome Trim CHROME METALLIC TAPE

A new tape that protects as it decorates. Just cut out the design you desire. No tools or Glue needed. Adheres to any smooth surface.

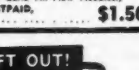
- It Reflects
- It Shines
- Repels Scratches
- It Lasts
- Easy to Apply
- Attractive

Roll ⅓ in. wide, 40 ft. long.

No. 272—POSTPAID **$1.98**

GANE AIR FLOW NEEDLE

WITH AIR FILTER CAP



INCREASES "GAS" MILEAGE

New air-bleed idling jet. Replaces present solid idling adjustment screw in your carburetor. 2 needles needed for Dual throat carb. Most V8's have dual throats. The objective is to lessen the vacuum in the idling channel by bleeding air during period of high manifold vacuum and thus TRY to increase "Gas" Mileage.

(As carburetors on many cars have been changed, please state Make of Carburetor and also Make and Model of Car or Truck, when ordering Gane Air-Flow Needles.)

No. 185—POSTPAID, each **$1.50**

THE GAUGES DETROIT LEFT OUT!

DON'T GUESS Have a DIAL AMMETER With Your RED AMMETER LIGHT

A precision gauge that tells how much your battery is charging or discharging. For cars that just have a red light on the dash that flashes when you reach a high discharge rate. This kit shows exactly the charge or discharge rate. This is not a replacement for the "red" light but the addition that you have been looking for. Fits all cars below the dash, without drilling any holes or can be mounted right in the dash. Kit consists of Ammeter, Mounting Bracket, Ammeter shielded Light, all necessary wire, etc., for easy installation. Full instructions included.

No. 556—Postpaid, Each. **$9.95**
State 6 or 12 VOLT.

DON'T GUESS Install an Illuminated DIAL OIL Pressure Gauge with your Red Oil Pressure Light. FOR ALL CARS, 6 or 12 Volt.

This precision illuminated gauge lets you know your oil pressure from 0 to 100 lbs. This is not a replacement for your present 'red flashing' light, but a necessary addition. Fits below the r sh. No holes to drill. Kit includes Gauges, chrome Bracket, Copper tubing and all necessary fittings and instructions for easy installation in your car.

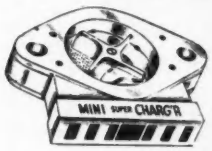
No. 606—For All Cars, 6 VOLT **$11.50**

No. 607—For All Cars, 12 VOLT **$11.50**

Send Your Order Now to JC WHITNEY & CO 1917-027 Archer Ave., Chicago 16, Ill.

FREE—Giant 180 Page Catalog with your Order

GET MORE POWER ON LESS GAS WITH THE - MINI - SUPER CHARGER



- UP TO 20% MORE MILES PER GALLON WITH GREATLY INCREASED HORSEPOWER
- LONGER ENGINE LIFE
- FASTER ACCELERATION
- BETTER PERFORMANCE

NEW . . patented automotive improvement "Supercharges" motor performance . . . boosts power output and gives greatly increased gas economy . . . BY INCREASING AIR-FUEL CHARGE EFFICIENCY.

MINISuperCharger consists of a revolving impeller "blower" and automatic air "breather" valve which mixes an increased volume of air to the fuel charge with whirlwind force. This atomizes and expands the gas molecules so that the improved mixture enters the cylinders in a more powerful highly explosive state . . . The MINISuperCharger eliminates over-rich mixtures and fuel waste. Better, cleaner combustion is obtained resulting in reduced "ping", less oil dilution, less valve troubles and longer engine life. Eliminates "Vapor-lock." Precision built of bronze and aluminum. Easily installed. Satisfaction Guaranteed.

Specify year, make, model of car or truck and make and model of carburetor.

Type Carburetors

No.	Throat	Each
311—2	Bolt Single POSTPAID	$9.95
312—3	Bolt Dual. POSTPAID	11.95
313—4	Barrel Quad. POSTPAID	15.95

For 1953 FORD—Latest 1956 Style

Wrap-Around Chrome Plated Custom Grille Bar

Custom Styled—Custom Fit—Gives Wide Low, Clean Look. Gives Your Car That 1956 Look.
- Wraps around side of fenders.
- Replaces original center bowl and right and left bars.
- Easily installed — No alterations necessary.
- Gleaming chrome finish.
- Precision engineered for perfect fit.
- Heavy gauge steel.

No. 619—Each $22.50

DYNO-METER Performance Indicator and Driving Guide

Checks Instantly—
- Road Horsepower
- Tests Acceleration
- Shows Best Brand Gas
- Trouble Shoots
- Measures Road Grades
- Condition of Brakes

Save on Gas & Repairs As You Drive

Amazing new "DYNO-METER" Car Test Instrument (not a vacuum gauge) mounts on dash to provide a quick, easy way of making your own road tests for peak performance, economy and safety. The "DYNO-METER" gives continuous readings on road horsepower, acceleration, hill climbing ability, road grades, condition of brakes, wheel alignment, engine tune, tractive resistance, etc. Helps save on gas, tires, and repairs by serving as a performance analyzer and engine "trouble shooter"—shows most economical driving speeds and best cruising speed range, makes comparison tests of fuel brands and determines best gas for your car. Checks engine efficiency before and after service work, shows value of a tune up, measures performance at all speeds. Also valuable for comparing performance when buying a used or new car.

Mounts on Dash or Windshield in 5 Minutes

The "DYNO-METER" functions on a basic law of physics and is completely self-contained. (Not a vacuum gauge.) The aircraft-type unit fits all cars and can be mounted on the dash or windshield in a few minutes. It has no connection to motor. No holes to drill . . . no experience needed. Simple to understand and use. Pays for itself many times over.

Drive By Instrument Like "Economy Run" Winners

U. S. "Economy Run" winners have taught us that it is NOT the car and NOT the gasoline that permits such phenominal high-mileage from ordinary passenger cars—IT'S THE DRIVING TECHNIQUE THAT MAKES THE BIG DIFFERENCE! Now you can easily put this same "know how" to work for you . . . Cut gas consumption and operating costs by as much as 50%. The amazing "DYNO-METER" shows you how to get all the performance and mileage your car can deliver—immediately and for years to come! It lasts a lifetime, transfers from one car to next. FREE "E-Z" INSTRUCTIONS INCLUDED.

FOR ALL CARS AND TRUCKS. No. 499—Each POSTPAID $3.95

RECAPPED TIRES AS LOW AS $6.95

Factory recapped with long wearing Grade "A" all new "Jet 500" cold rubber Modern Anti-Skid tread design. Guaranteed for 12 months. Only thoroughly inspected 4 ply balanced carcasses are used to insure safe long life. Thousands of miles of trouble free driving. A real buy — Blackwalls.

Size	State Size When Ordering.	Stk. No.	Each
6.40-15 6.70-15 6.00-16		708	$6.95

Size	Stk. No.	Size	Stk. No.	
6.50-16 6.70-16 7.00-16 7.60-16	709	6.00-15 6.50-15 7.00-15 7.10-15 7.60-15	709	$7.95

Stk.#	Size When Ordering.	Stk.#	
8.00-15	710	8.20-15	710	$8.95

REPAIR and RESTYLE with FIBERGLASS CUSTOMIZING KITS

CUSTOMIZE ANY PART OF ANY CAR THE MODERN WAY

You can Restyle & Customize older cars and make them look like this

- Repair dents & holes
- Make Cadillac Fins
- Make frenched headlights
- Air Scoops
- Deckroming—Bull Nose
- Build Hard Tops, etc.

Do It Yourself Kit

Adheres to metal — wood — glass — ceramics — concrete. Use for rebuilding — restyling — or patching.

Many uses for the home too. Now you can customize the modern way with the new Fiberglass material. Tough plastics and resins that reinforce and become as strong as steel. It's so easy and simple to do. Full instruction book included with each kit. No leading, no welding, no soldering, no special tools needed. Fiberglass is acid-proof, waterproof, and weatherproof. Will not rust, rot, or deteriorate. Will not dent. Easily repaired if damaged. Works perfect with metal as it doesn't shrink.

FIX-IT KIT — Covers 3 Square Feet. For car repair, dechroming, customizing. Also useful in home for repairing gutters, water tanks, etc. Includes: 3 Sq Ft cloth, 5½ oz Resin Epoxy, 1½ oz Hardener, bag of floc.

No. 19—POSTPAID, Each **$3.78**

Gas Mileage Calculator

Don't guess on what your gas mileage is Fast—accurate. With the Calculator you easily and accurately check your gas mileage. No effort—easy to use—lasts a lifetime. Has handy trip record on face. Easy to check your cost of trips.

Use as a performance check on your car. Any sudden drop in mileage usually indicates need for adjustment or repairs long before actual damage occurs.

Lightweight—durable aluminum—clear, easy to read figures.

No. 683—POSTPAID, Each **$1.00**

MOST MODERN "CADDY" TOUCH Headlight Rim

- Triple Chrome Finish
- No Holes to Drill
- Very Easy to Install

Embodies the new SQUARE LOOK. Tomorrow's look for most cars.

No. 650—Fits All These Cars and Others:

49-52 Zurch	49-51 Ford	49-54 Plym	
48-49 Cadillac	51-53 Henry J	48-54 Pack	
49-52 Chev	1954 Hudson		
49-50 Chrysler	49-52 Ka-Fraz	46-53 Willys	
49-54 DeSoto	49-51 Mercury	and Others	
49-54 Dodge	48-50 Olds		

For above cars Pair $5.95

No.	Chev 53-54	No. 659—Ford 52-53
660—	Cad 49-53	No. 661—Pont 55-56
Fits:	Pont 49-52	No. 661—Olds 52-54

For the above cars. Per Pair $6.95

Flexible Leather Coating

NEW EASY TO APPLY

For Leather—Leatherette or Canvas. Restore—Change Color—Waterproofs Beautifies and Preserves. Leather—Leatherette or Canvas.

Ideal for Custom Car Interiors

With this coating you can renew or change color of all leather, or canvas, or leatherette covered articles. Automobile seats, conv. tops, Boat seats, Suitcases, Bags, Chairs, Awnings and etc.

Colors to Harmonize. Change color to match your color scheme. Restores old leather—leatherette canvas to like new finishes. Preserves the new.

Easy to Apply, Brushes on, Dries in 2 Hours. Flexible coating covers with a thin pliable coating, preserving the original leather grain. Protects from stains, heat, scuffing and wear. Dirt cannot penetrate, will not chip or peel. Not affected by mildew, beverage, alcohol or salt.

Comes in 3 Convenient Sizes

Available in 12 colors. Other colors and shades obtained by mixing colors.

State No.	No. 623—4 Oz. Postpaid	$1.00
& Color	No. 633—Pint. Postpaid	2.98
Choice	No. 634—Quart Postpaid	5.25

White Wall RUBBER TIRE DISCS

The new all white sidewall fits all cars and tires. Has appearance and wearing qualities of regular tire. Easily installed with full instructions. Needs no cementing and fits snugly at all times. Can be taken off and re-used on different cars.

No. 441—Set 4—Size 590/15 to 710/15.		
Each Set Postpaid		$8.95
No. 442—Set 4—Size 600/16 to 650/16.		
Each Set Postpaid		$9.95
No. 443—Set 4—Size 760/15 to 820/15.		
Each Set Postpaid		$10.95

BERMUDA CLANGING BELL

It's the New "Rage"!

Gives a most amusing and commanding two-tone bell sound. Easily installed under car floor by driver's seat. Step on plunger. Highly polished. Fits any car.

Stock No. 49—POSTPAID $4.30

Overhead Valve Silencer Pad

Silences clicking noises. Lubricates valve rocker arms. Protects against dirt and condensation. Easy to install. State year, make and model of car.

No. 250—Fits Buick 36-52, Chev. 6, 30-56, Ford 6, 52-56, GMC, Willys 6, 51-54. POSTPAID, Each $2.69

No. 251—Fits V8 Cad, Olds 49-54, Mercury 54-56, Lincoln 52-56, Buick 53-56, Chev. 55-56, Ford 54-56, DeSoto V8, 55-56, Plym. V8, 55-56, Pontiac V8, 55-56, Studebaker V8, 51-56.

POSTPAID, Per Pair **$4.49**

Flexible Plastic Coating

Has the same qualities & application as above.

FOR VINYL PLASTIC—Plastic imitation leather such as Duran, Koroseal, Naugahyde Velon, Kaleston, etc. Ideal for Custom Car interiors. Change color to match your color scheme. Restores old Vinyl Plastic materials to like new finishes. Preserves the new.

Comes in Convenient Sizes

Available in 12 Colors. Other colors and shades obtained by mixing colors.

State No.	No. 635—4 Oz. Postpaid	$1.00
& Color	No. 636—Pint. Postpaid	2.98
Choice	No. 637—Quart Postpaid	5.25

Fender Well Fender Skirts

FITS INSIDE AND FLUSH WITH FENDER

- Same as original equipment
- Perfect fit
- Prime finish
- Heavy Gauge steel
- Locking lever handles

Stk. No.	Car	Type of Bottom	Pair
684—	BUICK 50-53	Plain	$11.95
685—	BUICK 54 & 55, 2 Door Super & Ramster	Plain	14.95
686—	BUICK 54-55, 4 Door Super & Ramster	Plain	12.95
687—	Chevrolet 49-54	Plain	11.60
688—	Chevrolet 1955	Flared	11.95
689—	Chevrolet 1956	Flared	11.95
690—	Dodge 53-55 exc models with Fender Shields	Flared	11.95
691—	Dodge 1956	Plain	12.95
692—	FORD 49-51	Plain	10.40
693—	FORD 52-55	Flared	10.99
694—	Mercury 52-54	Flared	10.99
695—	OLDS 98—1955	Flared	14.95
696—	OLDS 1956 All	Flared	14.95
697—	Plymouth 53-55	Flared	11.95
698—	Plymouth 1956	Flared	12.75
699—	Pontiac 49-52	Plain	12.67

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Address_____

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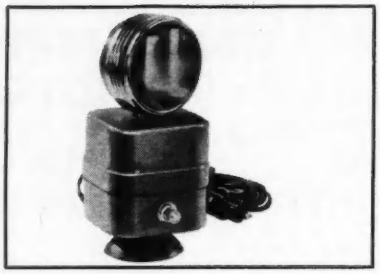
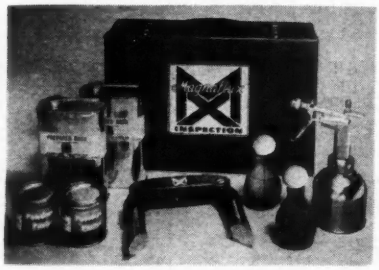
motoring accessories

AUTOMOBILE AIR CONDITIONER for do-it-yourself addicts can be installed in 3 to 4 hours and fits '51 to '56 trucks, cars, wagons, and taxis. All parts including Freon gas included (unit may be bought precharged). Said to lower temperature 30 degrees and reduce humidity. $245 for underdash or trunk unit. Kool Engineering Corp., Dept. MT, 3716 W. Belmont, Chicago 18.

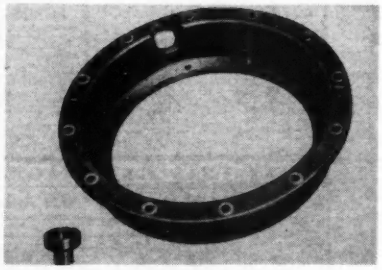


ROAD-O-LITE rotates thru 360 degrees, throwing a bright red light beam visible up to 400 yards. Inside the red, baked-enamel-finished base is a 6- or 12-volt electric motor which starts when the 12-foot cord is plugged in. A switch to shut off the motor and an auxiliary clear lens allow the unit to be used as a spotlight. $9.95 ppd. Sterling Sales, 216 W. Jackson, Chicago 6.

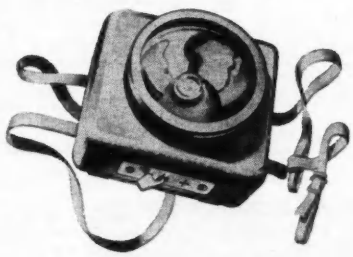
LUB-A-KIT contains 3 specialized lubricants. Lub-A-Spray is a dry, oilless, stainless, and waterproof graphitic mixture for locks of all kinds; Lub-A-Graph is a weatherproof liquid graphitic material, fine for door-latches; Panef-Oil is a highly penetrating and non-gumming oil for motors, etc. Only $1 at local stores or write Panef Mfg. Co., Inc., Milwaukee 1, Wis.



MAGNAFLUX YM-5 KIT is a portable device that will reliably find surface and fatigue cracks in magnetic metal components. Permanent Alnico magnets eliminate electrical needs; yoke legs are hinged and rotatable to fit most irregular shapes. Complete kit weighs but 22 pounds. $145 f.o.b. plus tax from Magnaflux Corp., Dept. MT, 7300 Lawrence Ave., Chicago 31.

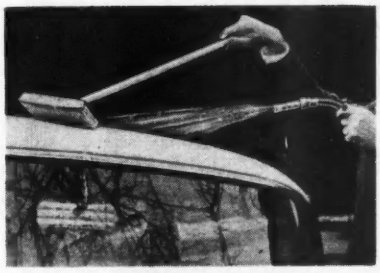


CRAGAR ENGINE ADAPTERS in the "400" series are models to adapt Plymouth, Dodge, DeSoto, and Chrysler engines to 1932 and many later Ford and some Mercury transmissions. Prices are $74.50 (401), $81.75 (402), and $53.50 (403). Satisfaction is guaranteed. Order from your local dealer or write to Cragar Equipment Co., 3663 Gage Ave., Bell, Calif., for information.

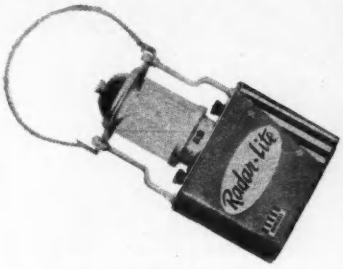


CHESTLITE provides the light and puts it where you want it, freeing a hand in the process. Features include loops of heavy-duty webbing strap, focusing lens for flood or spot beam, 26-gauge copper-plated steel case painted gray. Lights under water with 2 sealed-type batteries. Less batteries, $3.15 ppd. Emergency Lights, Inc., Dept. MT, 620 W. Anaheim, Long Beach 13, Calif.

This department is not composed of paid advertising. All items are guaranteed by the manufacturer for immediate refund if you are not satisfied. Claims made herein are those of the manufacturer, and do not constitute an endorsement by MOTOR TREND. When ordering, include sales tax if required by your state.

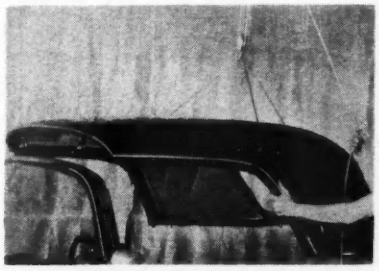


JIFFY CARWASHER is designed to end reaching and getting wet when washing the roof of your car. Unit consists of a DuPont sponge mounted at the proper angle on a 32-inch wooden handle. Sponge extends beyond base to prevent scratches; may be easily detached from the handle. Also useful for washing ceilings and walls. $2 ppd from Joseph Hladik, 3938 Euclid Ave., Berwyn, Ill.

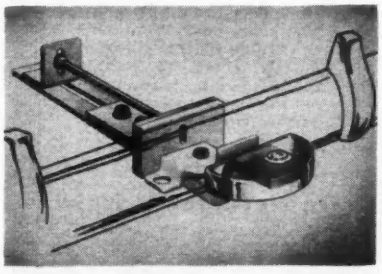


BURGESS RADAR-LAMP was developed specifically to replace gasoline and kerosene lamps used to illuminate summer cabins, picnics, barns, etc. It is weatherproof and, of course, windproof. A standard automobile bulb assures easy replacement. The $2.45 battery also fits the Radar-Lite searchlight model. $8.95 in chrome or copper finish with battery; lamp alone is $6.50.

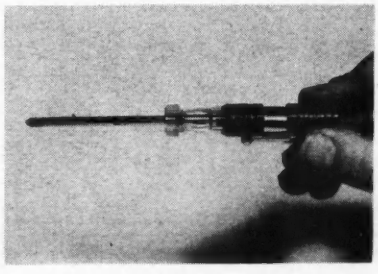
CARBON MET VOLATILE SOLVENT in quart-size cans has been announced by the Curran Ordnance Chemical Laboratory. Intended to be a replacement for carbon tetrachloride in industrial or home cleaning operations, Carbon Met is said to be far less toxic, quicker drying. It dissolves pitch and resin, evaporates without residue, and is no more inflammable than kerosene.



AUTO TOP LIFT is designed to facilitate easy removal of hardtops like those currently available on the Corvette, Thunderbird, and similar cars. Installed in about 10 minutes in your garage or carport, it can be used to store the top against the roof, and permits removal or replacement of the top in about 5 minutes. $9.95 ppd. from James Auto Specialties, Box 151, Pasadena, Calif.



BAKER HITCH-MASTER is an all-purpose trailer hitch that fits all modern passenger cars thru '56, plus most wagons. Appearance has been improved with the addition of a chromed cover guard (available separately) that fits over the draw bar. Claim is positive attachment and minimum sidesway. Write Hitch-Master, 825 Pine St., Oakland 20, Calif.



SPARK-DETECTING screwdriver with a neon bulb type, current intensity flasher gives dependable, shockproof indication of sparking voltage presence. Made with standard tip (No. 1014) for slotted screws and Phillips No. 1 Point (No. 1411) for Phillips recessed-head screws. Overall length is 5 inches, blade length 2¼ inches, shaft diameter ⅛ inch. A Stanley tool.

FROM MOTOMETER OF GERMANY

Capillary-Type TIRE TESTER

■ Correct tire pressure is *vital* for *top acceleration and peak performance.* The MoTest Model TT-211 is an accurate and rugged instrument. It features a capillary-type tire pressure indicator of easy legibility, even in dimly lit places. *With genuine leather pouch* $2.95

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Carburetor and Ignition Specialization offers very superior opportunities for better pay and bigger profits because relatively few mechanics know anything about this time-saving, money-making new test equipment. Now our spare-time home-study method teaches you the principles and shortens your shop training. Ambitious men (age 18-55): Send for full FACTS AND FREE SAMPLE LESSON at once. Write today to

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For information Write Dept. 92 J

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1020 Broad, Newark, N. J.

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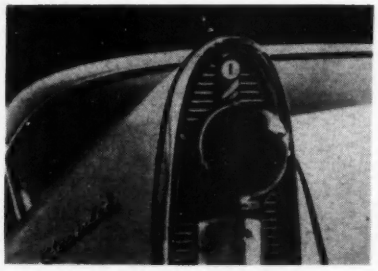
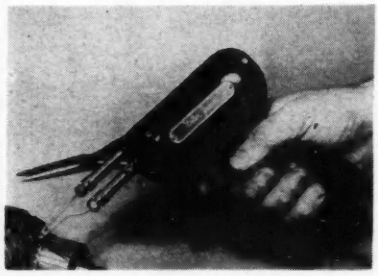


REAR LIGHT GAS LOCK is made to fit all 1956 Chevrolet cars. A "dual locking device" locks both the gas tank and hinged tail light. Installed in one minute with a screw driver; no holes to drill. Lock is genuine Yale cylinder with 2 Yale keys. Other types for all make and model cars—from Imperial Handle and Lock Mfg. Co., 858 E. 29th St., Brooklyn, N.Y.

WALBERNIZE CLEANER AND GLAZE is claimed as a completely new silicone fluid, containing no wax, that reduces working time at least 50 per cent. Cleans rust from chromed metal and removes road film, oxidized paint. Leaves a hard, easily cleaned surface not affected by grease, salt spray, bug remains, tar, etc. Walbern Laboratories, 2220 E. Logan, Decatur, Ill.



WELLER SOLDERING GUN is the answer to many garage, household, and shop repair problems. This instant-heat twin-light type gun has 250-watt capacity. Handle is comfortably shaped to fit your hand, tip stays cool until trigger is pulled, and 2 easily replaced lamps illuminate hard-to-reach jobs. Operates on *AC only.* Weller Electric Co., 601 Stone's Crossing Rd., Easton, Pa.

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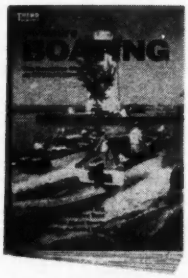

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SELL

'35 PIERCE-ARROW 4-dr. sed. Built-in trunk, side-mounts. In storage many years; body, tires, & uph. like new. Best offer. U. S. Motors, 1700 Calhoun St., Trenton, N.J.

'36 CHRYSLER Airflow. 45,000 orig. mi., mech. perf., will run anywhere. Tires exc., paint & interior good. Power brakes, o.d., r & h, owners' manual. $350. P. K. Driscoll, 3508 13th St., S.E. #3, Washington 20, D.C.

'47 LINCOLN CONTINENTAL hdtp., with '52 Cad installation ($1500) by Granitelli. Mint cond., all new orig. accessories: radio, wipers, vacuum antenna, skirts, ww's. Consider all reasonable offers. Dick Benton, KVTV, Sioux City, Iowa.

'47 TRIUMPH 1800 3-place rdstr. Immac. Concours D'Elegance car—metallic peacock green, leather uph. R & h, ww's, new top, 2 rear folding seats. $1685. M. Kifer, 2205 Sacramento St., San Francisco, Calif.

'50 CHEVROLET 4-dr. sed., with 270 GMC engine, '52 Cadillac rear fenders & bumper. Electric doors, custom grille. $995 or best offer. Scotty Scovill, 7631 Pennsylvania, Kansas City, Mo.

'40 LINCOLN CONTINENTAL conv. Complete orig. cond., hand-rubbed metallic green lacquer finish, orig. alum. head V-12 engine. R & h, ww's. $1400. J H. Darner, 1108 Joe Annie, Houston, Tex. Phone: JA 8-2944.

'37 CHRYSLER Airflow sed. Perf. mech. cond., mint uph. Fender skirts, 7 tires, o.d. Needs paint job only. $650. David A. Franke, 3278 Briggs Blvd. N.E., Grand Rapids 5, Mich. Phone: EMpire 1-7217.

'27 STUTZ sports sed. Unrestored classic, exc. mechanically; body exc., no rust, complete. Overhead cam 8, twin ignition, worm drive. Drive it away for $275. Carl H. Pennrich, Greenwood Lake, N.Y.

'27 ROLLS-ROYCE P-I (Springfield) rare 5-pass. family sport sed. All orig., absolutely superb cond. thruout. Beautiful chrome, interior mint cond., mech. perfect, 6 ww's. $1500 firm. W. J. Lennon Jr., Out of Bounds Farms, Housatonic, Mass. Phone: 218.

'26 CHRYSLER coach. Orig. cond., licensed & running. Body solid, no rust, glass complete. Needs some uph. work & ring job. $200. H. L. Kent, Rm. 506 Patterson Bldg., Fresno, Calif.

'29 DODGE 4-dr. sed. Good engine & tires; can travel any distance. Needs uph. & top for collector's perfection. $300. H. C. Donahoe, 145 Grand Ave., Billings, Mont.

'24 MODEL T.T. fire engine truck. A-1 cond., with all hoses, new tires, pump. As was when retired from service in '44. $600. Inquiries answered. Joseph Komar, 5819 W. National, West Allis 14, Wis.

'50 JOWETT JAVELIN sed. Alum., horizontally-opposed ohv flat 4 engine with wet sleeves. A-1 cond., 25 000 mi. Black with red interior. 1st $350 takes. F. Potter, 8811 W. 102nd St., Rte. 4, Oak Lawn, Ill. Phone: GArden 2-3552.

'29 LA SALLE phaeton. Smooth-running classic in

daily use Vinyl lights in side curtains. Owner's manual. Appears in movie. *The Eddy Duchin Story.* $485. J.V. Smith, 533 S. Chicot Ave., Babylon, N.Y. Phone: MOhawk 9-8233.

CLASSIC CAR Sales Catalogs: Packard, Chrysler, Lincoln, Cadillac, Pierce-Arrow, orphan & foreign cars; minimum $5 each. Also MoToR (N.Y.) Annual numbers; details for large, stamped addressed envelope. A.E. Twohy, 400 N. Kenmore, Los Angeles.

FORD T PARTS. Widest range possible, lowest possible prices. Send for large free mimeographed listing. Also, Model A mechanical parts listings available. E. Hemmings, 1036 Hampshire, Quincy, Ill.

'35 FORD conv. cpe. Complete, but in a basket; not wrapped. Body clean, orig. black Duco. No top, front bow. $100. N.W. Hamaker, Box 254, Pine Rock, Shelton, Conn.

'55 DORETTI, just wrecked. Many near-new parts. Will sell as unit or as parts. Holiday Motors, 5215 Bakman, North Hollywood, Calif.

CORD 812 5-pass. phaeton. Mechanically rebuilt at factory, inc. exchange engine, transmission, etc. New top, interior & Thunderbird green paint job. Sacrifice. John Holliday, R.R. 2, Carmel, Ind.

'39 PACKARD 12 2-pass. cpe. Near mint, new ww's. $1500 (considerably less than investment). Photo to genuinely interested. John H. Shepard, Postmaster, Carpinteria, Calif.

FORD A PARTS—mechanical & body, from bumper to bumper, new or used. Also '29 to '33 Pierce-Arrow parts, except V-12. G.S. Schulze, 1207 S. 91st St., West Allis 14, Wis.

'36 HISPANO-SUIZA pillarless sed. with 12-cyl., 9.5-liter engine. Orig. cond. thruout. Paint, engine, uph. like new; extremely low mileage. Purchased from orig. owner. $2895. V.A. Corradini, 1231 Oaklawn Rd., Arcadia, Calif. Phone ELgin 5-6320.

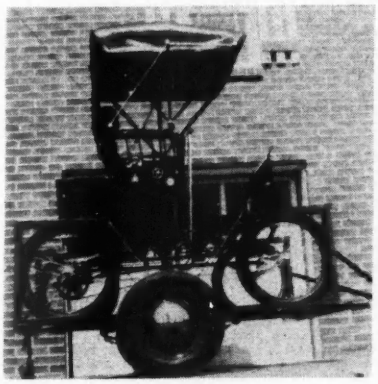
ORIGINAL MAGAZINE ADS of Duesenberg, Cord, Auburn, Marmon V-16, Cadillac V-12 & V-16, Stutz, Jordan, Kissel, DuPont, & hundreds of other autos. Complete list 25¢. Sheldon J. Lewis, 1373 E. 12th St., Brooklyn 30, N.Y.

'48 LINCOLN CONTINENTAL hdtp. New Cadillac engine installed in '52. Showroom cond., 24,000 actual mi. Platinum gray, Vogue ww's. $3000. Charles Kerswill, 647 S. 22nd St., Louisville, Ky. Phones: CYpress 8531, evenings BElmont 8794.

'47 LINCOLN CONTINENTAL conv., with Cadillac engine, Hydra-Matic & rear end. Black, with red leather uph.; in exc. cond. R.W.Y. McConnell, 7916 Santa Monica Blvd., Hollywood 46, Calif. Phone: OLdfield 4-4355.

'13 CHEVROLET Model 490 sports rdstr. Completely restored, new tires, top & uph. Make offer. L.H. Phillips, 1950 Galbraith Rd., North College Hill, Cincinnati, Ohio.

1900 LOCOMOBILE STEAMER. Recent complete restoration to absolutely mint cond. Never shown.



Complete with trailer, ready to go. $5000. Edgar Hess Jr., 106 Meadia Ave., Lancaster, Pa.

'32 HUPMOBILE 8-cyl. 4-dr. sed., with '34 engine. Runs good. Wire wheels & good tires. Easily restored. $300 or best offer. Peter J. Grathwohl, R.R. 2, New Ulm, Minn.

MC CULLOCH SUPERCHARGER. Complete kit for Thunderbird, used 500 mi. Cost $385, sacrifice for $225. Also Mallory distributor with tach drive & Magspark transformer. Cost $85, sell for $40. Michael Sorci, 2245 16th St. N.W., Cedar Rapids, Iowa. Phone: 3-4338.

'17 OLDSMOBILE 7-pass. touring with orig. V8 power. Exc. mechanical cond. Restored, ready for paint & uph. installation. Rare model. $600. Dick Honzay, Box O, Olivia, Minn.

'32 PACKARD 8 sed. Automatic clutch & starter, good running cond. Dark green, chrome like new, 6 tires. Best offer. C.L. Nenninger, 27 La Secla Pl., Berkeley Heights, N.J.

PRESCOTT 2-cyl. steam car engine. A real collector's item, engine No. 606. Best offer. William B. MacNeill, 715 Linden Ave., Teaneck, N.J.

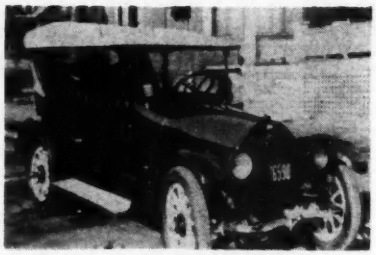
'41 LINCOLN CONTINENTAL conv. Mercury engine, duals, new tires, brake system, custom Naugahyde uph. Unspoiled classic; exc. thruout. $1250 firm; cash, no trades. N.C. Johnson, M.D., 3014 Bayo Vista, Alameda, Calif.

'41 CADILLAC conv. New paint, fair tires, fair top, conventional transmission. In good cond., running every day. W.D. Roach, Stayton, Ore.

'31 PIERCE-ARROW phaeton. Cream & black, with tonneau windshield. Mint cond. New paint, uph., rugs, top, boot & brakes. Completely rechromed. $2750. Frank Woods, Pompton Lakes, N.J. Phone: TErhune 5-1029.

'34 CHRYSLER Airflow Imperial. Exc. tires, good engine, spare parts. In restorable cond., can be driven anywhere. $125. Walter Ryan, 96 Chestnut St., Newark, Ohio.

'41 CADILLAC 60. Rare custom Fleetwood body, built for former General Motors executive. Good running cond.; 60,000 actual mi. Make offer. W.E. Kerchenfaut, Rt. 1, Box 170, Elgin, Ill.



'17 WILLYS OVERLAND. Needs new tires, otherwise in exc. cond. $700. Harry K. Wakefield Jr., 203 6th St., Tyrone, Pa. Phone 1865.

'32 FORD Model B 5-window cpe. Sound body, o'hauled engine, new tires. Drive anywhere. Not registered. $150. B.D. Murff, Oakwood, Tex.

'29 ALFA-ROMEO close-coupled 4-seat conv. cpe., with special body. 6-cyl., 1750-cc engine with double overhead camshafts. Knock-off wire wheels. Partially restored. $750. Jon Repke, R.R. 2, Coloma, Mich.

'25 FORD MODEL T cpe. Orig. thruout, mohair interior. Runs good; paint, tires good; new battery. Hobart White, 205 E St., Marysville, Calif.

'39 LINCOLN Model K V-12 7-pass. sed. Physician's car, stored 3 yrs., 39,207 mi. Beautiful cond., with sidemounts, new battery, power brakes. Best offer over $500. Milton Sutton, 3022 N. Hackett Ave., Milwaukee 11, Wis. Phone: ED 2-2334.

'39 PACKARD 12 7-pass. conv. sed. with glass division. Orig. paint, good tires. Needs canvas & wood. $385. G.M. Howell, Box 56, Clarcona, Fla.

'48 LINCOLN CONTINENTAL with Mercury engine, o.d. Extra clean, orig. interior, perfect cond. New metallic maroon finish, 4 new ww's. Must sacrifice, $1600 cash. R.H. Stanley, 602 E. LaGrange, Lake Charles, La.

'41-'48 LINCOLN CONTINENTAL parts: doors, hard tops, conv. top bows, dash, fenders, hood, etc. All or part. Very reasonable. Karnig Fesjian, 1107 S. Lorena St., Los Angeles 23. Phone ANgelus 1-8011.

'39 FORD 4-dr. conv. sed., with complete '51 Ford engine, new trans.—remainder stock. Body good, very little rust. Fair interior. Best offer over $150. H. Slater, Rt. 1, Box 227, Kenosha, Wis.

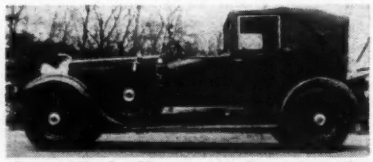
THUNDERBIRD parts: Fordomatic trans. $125, power steering unit $20, both in exc. cond. McCulloch supercharger $200 (needs intake bases, otherwise perfect). G.L. Steward Jr., Asbury St., Topsfield, Mass. Phone: TUcker 7-5984.

MISCELLANEOUS PARTS: Air-lifts, fit almost any leaf spring, $10; '55 Mercury Multiluber, never installed, $20; Craftsman welding outfit, gauges, tips, cutting torch, $40. G.L. Steward Jr., Asbury St., Topsfield, Mass. Phone TUcker 7-5984.

'37 PACKARD 12 conv. cpe. with sidemounts. New top, chrome, gray lacquer, ww's. Uph. good; engine needs no further work. Pix 25¢. C.P. Fishbaugh, 12785 Cedar Rd., Cleveland Heights 6, Ohio.

'37 CADILLAC Model 60 V8 sed. Entirely orig., beautiful finish. Exc. cond., 67,000 mi. $500 or best offer. William Spengler, Long Lake, N.Y.

'30 LINCOLN conv. town car. Alum. body by Holbrook, leather top, perf. uph. Dark red body, black fenders, no dents or scratches. Exc. cond., drive anywhere. $800. Joe Kington, 113 Ogontz Lane, Oak Ridge, Tenn.



AUTOMOBILE CATALOGS & manuals. Over 150 makes, 1904 to date. Send stamped envelope & state makes in which you are interested. Frank E. Flaherty, 2614 St. Marys Ave., Omaha 5, Neb.

'33 FORD V8 2-seat cpe. Exc. cond. thruout, can be driven anywhere. Make offer. Catheryne Gammon, 227 N. Del Monte St., Morgan Hill, Calif.

BEAUTIFUL & RARE: Duesenberg, Rolls-Royce, Cadillac, Lincoln, Packard, Mercedes-Benz, Stutz, Pierce-Arrow, Hispano-Suiza, etc. snapshots, literature photos, deluxe stills, 8 x 10's, & orig. ads. Mammoth listings, 15¢. Ted Templin, 1804 N. Fairview St., Burbank, Calif.

'41 CADILLAC custom conv. with '48 Cad engine, Carson top, continental kit, etc. Good cond. Best offer over $500. Deliver anywhere in Aug. Write for pix, details. Fred Kilbourne, 12318 Gorham Ave., Los Angeles 49.

'03 WINTON, with rear seats. Same as 1st car across continent, *Readers Digest* story, March 1953. Exc. cond., no decay or missing parts. $3500. H. J. Scott, Geddes, S.D.

'37 LA SALLE 4-dr. sed. Needs new shocks, otherwise very good cond. 76,000 mi., drive anywhere. Best cash offer. Ed Ansley, 1210 Judith, Lima, Ohio.

'32 AUBURN sport cpe. Exceptionally fine mechanical cond. All extras, inc. racing wire wheels, new tires, dual ratio, ride control. $395. Pix 50¢. Will Small, 3458 Shenandoah Ave., St. Louis, Mo. Phone PRospect 1-4449.

'52 HENRY J. Vagabond in good cond. $350 or best offer. Mrs. Merlin Dohrman, 107 Cleveland St., Beaver Dam, Wis.

'48 LINCOLN CONTINENTAL V-12 hdtp. cpe. Black, all orig., with o.d., ww's, puncture-proof tubes. Fully equipped; in daily use. $1700. F. Gavan, 640 Prospect Dr., Stratford, Conn. Phone: DR 8-3429.

'40 LINCOLN CONTINENTAL conv. in good running cond. Needs work to restore. George Sommermeyer, Fairacres Rd., Route 3, Columbus, Neb. Phone: 5973

'24 CADILLAC phaeton. Good body, orig. top, good running cond. $750. Robert Kolwelter, 271 N. Wabash, Bradley, Ill.

CLASSIC '28 PACKARD phaeton (rolling windows). Dietrich body; built for member of Marshall Field family. Near perf. cond.; unrestored. $1950. Wendell Westergard, 1218 E. 10th St., Sioux Falls, S.D.

'33 ROHR 4-dr. hdtp. conv. Pre-war German sports car, custom coachwork. Exc. orig. cond., new tires. Suitable for daily use or concours. Sacrifice for $695. Pix 50¢. Will Small, 3458 Shenandoah Ave., St. Louis, Mo. Phone: PRospect 1-4449.

'55 FERRARI, latest type 3-liter Spyder Monza. Body by Scaglietti. Like new; raced only once. Thoroly checked at Modena. $8000. V.A. Corradini, 1231 Oaklawn Rd., Arcadia, Calif. Phone: ELgin 5-6320.

ALVIS Speed 20 5-seater conv. 6-cyl., ohv, 3 S.U. carbs. Built-in jacks, wire wheels, air cushion leather seats. New tires & batteries. $950. G.L. Creighton, Cove Cliff P.O., B.C., Canada.

SELL OR SWAP

'53/'54 ALVIS. Orig. owner, immaculate, 9000 mi. $2950 or trade for small '34 Packard conv. sed.

with wire wheels. Body chassis must be perfect; with or without engine. A.M. Choremi. Rm. 102, 17 Battery Pl., New York 4.

'48 LINCOLN CONTINENTAL cpe. Chrysler V8 engine, Lincoln o.d. trans. Good cond. Will sell or trade up or down. Make offer. R.A. Van Allsburg, 1851 Conlon Ave., SE, Grand Rapids 6, Mich.

'25 FORD MODEL T rdstr. New top, uph., complete new rear end. $295 or best offer, or trade on older restorable car with brass lights. Robert Schaible Jr., 5470 Boomer Rd., Cincinnati 11, Ohio.

'46 LINCOLN CONTINENTAL cpe. '53 Olds 88 engine, r & h, o.d., ww's, black lacquer. $1200 cash, or trade for Ford or Chevrolet. Walter Easson, 1741 Grand Ave., Racine, Wis. Phone MElrose 3-7374.

'33 AUBURN V-12 phaeton. New paint & tires; engine in exc. cond. Knock-off wire wheels, dual exhaust carbs & differential. $1500 or will consider trade. Robert E. Cook, 2111 Washington Way, Longview, Wash.

'48 LINCOLN CONTINENTAL cpe. 100% orig., in exc. cond. R & H, o.d., rayon ww's, turn signals, power windows & aerial & other factory-approved access. Will sell or swap. Ira M. DeWalt Jr., 228 E. 4th St., Ainsworth, Neb.

'39 PACKARD Model 1703 Super 8 opera cpe. 100% orig., 8756 mi., o.d. Sell or trade for '30-'37 conv. or touring. John Peterson, 38 Barton Hill, E. Hampton, Conn.

'33 CHEVROLET sport rdstr. 6 wire wheels, rumble seat. Orig. paint, top. Needs engine work. $195 or trade for running '33 or '34 Ford rdstr. Gil Peers, Box 709, Mojave, Calif.

'39 PACKARD V-12 limousine. Full luxury equipt. Sell or trade for '38-'40 supercharged Graham, or what have you? Pix & full details 50¢. W. Snyder, 4039 N. Kilbourn Ave., Chicago 41.

WANTED

LINCOLN Model K conv., late 30's. Must be perfect; alum. body desirable. State price, cond., & enclose recent photo. D. Gallagher, 5093 Lynd Ave., Lyndhurst 24, Ohio.

'53 OR '54 STUDEBAKER cpe. with Cadillac engine conversion, stock or modified. State price, color, cond. & transmission. All letters answered promptly. Glen Stephen, 2405 W. Highland Ave., Milwaukee 3, Wis.

'37-'39-'40 FORD 60-hp cpe. from orig. owner only. Must be like new, no rebuilts. Will pay up to $500. Cass Dobiesz, 3863 Commor, Detroit 12.

'30-'31 FORD Model A phaeton. Please state cond. in 1st letter. Tom Brackett, 702 Fairmont Ave., St. Paul 5, Minn.

MUNTZ. Please describe thoroly & state price. Picture helpful, will return. Fred James, P.O. Box 98, Cedar Grove, Essex County, N.J.

LEFT FRONT FENDER for '48 Lincoln Continental conv. Peter V. Watjen, 48 Underwood St., Pawtucket, R.I.

CAMSHAFT, camshaft bearings, & set of supercharger driving gears for '37 Cord 812. H. W. Halterman, Grove, Okla.

GLOVE COMPARTMENT

continued from page 13

may have an insignificant modern day 2nd and passenger autos a 3rd place: now defunct manufacturers of horseless carriages could claim a solid 1st in many more categories than just those listed here. See next month's MT for some photos to prove it.

SUPER STOPPER

MACK has announced an exhaust brake which acts much like the reversing propellers of modern airliners. Controlled by the driver with a simple butterfly valve in the exhaust line actuated by a 3-position switch, exhaust pressure transforms the engine into a compressor to augment regular braking action. This device appeared experimentally in this country in the late '20s and is still used in Europe, but Mack is the 1st company to revive it here and offer it as an option. It might be an interesting variation on Duane Dewey's car (page 31).

SUPER STOCKERS

PACE CAR for both the Indianapolis 500 and the Pikes Peak hillclimb, DeSoto has announced that it's going to be serious about the latter and try for a record. Present incumbent is a 1955 Dodge with a time of 19:39.4 minutes. This is a pace car record; the stock car record of 19:25.0 was held until 1955 by a '34 Ford roadster under AAA sanction, broken then by a '55 Chevrolet under NASCAR sanction with a time of 17:24.05.

Still another record for the book in this year loaded with stock car record attempts, *i.e.* Daytona, Pikes Peak, Bonneville, etc.: At Darlington, S.C. Raceway a Chevrolet Two-Ten lapped the 1⅜-mile oval for a solid 24 hours and covered 2438 miles. With name drivers Betty Skelton, Tim and Fonty Flock, Jim Reed, Bob Welborn, and Paul Goldsmith, the Chevy averaged 101.58 mph for the 24 hours, this including some 21 pit stops. This actually is a "record" only in a rather vague sense (no other similar attempts at Darlington), but Chevrolet is proud to have bettered the last similar record run, in which Chrysler ran for 24 hours on the Indianapolis track in 1953, covering 280 miles less than the Chevy did at Darlington and going 11.69 mph slower. Good subject of discussion for the cracker barrel fans: All things considered, which is faster for such a lengthy haul, the long but nearly flat Indianapolis track, or the highly banked Darlington circuit?

MYSTERIOUS MANUFACTURERS

"WHO BUILDS IT?" is a question that may occur oftener with tires than with most commodities. To alleviate some of the confusion, we offer this partial list of who-makes-what:

Brand Name	Manufacturer
Ajax	Dayton
Allstate	Armstrong, Dunlop, Lake Shore, Dayton, Goodrich
Amoco	Mansfield
Armstrong	Armstrong
Atlas	U.S., Mansfield, Cooper, Seiberling
Brunswick	Goodrich
Carlisle	Mansfield
Century	Mansfield
Cities Service	U.S.
Co-op	U.S.
Cooper	Cooper
Corduroy	Corduroy
Cornell	U.S.
Crest	U.S., Mansfield
Davis	U.S., Goodrich
Dayton	Dayton
Denman	Denman
Diamond	Goodrich
Dunlop	Dunlop
Federal	U.S.
Firestone	Firestone
Fink	U.S.
Gates	Gates
General	General
Gillette	U.S.
Goodrich	Goodrich
Goodyear	Goodyear
Gulf	Goodrich
Hood	Goodrich
Inland	Mansfield, Inland
Kelly-Springfield	Kelly
Lee	Lee
Mansfield	Mansfield
Michelin	Michelin
McCreary	McCreary
Miller	Goodrich
Mobil	Kelly
Mohawk	Mohawk
Norwalk	Norwalk
Pennsylvania	Pennsylvania
Pure	Penn, Mansfield
Richland	Mansfield
Riverside	U.S., Gates, Mansfield, Cooper, Pacific
Schenuit	Schenuit
Seiberling	Seiberling
Unico	Dunlop
United	Mansfield
U.S.	U.S.
Vogue	Denman

We would say that there is ample evidence of a new classic era, especially when we see cars like this one. It's the latest Arnolt-Bristol, known as the Coupe Mark II, and in line with its purpose—for ultra-luxurious touring—it has increased luggage space and rearward visibility. Headlights are retractable, manually controlled

STUDEBAKER
POLICE SPECIAL

ALTHO YOU'LL PROBABLY NEVER get a chance to drive the new, hot Studebaker Police Special (unless you modify your Commander engine) we thought you might like an inside glance into what is being produced with the police specifically in mind—and what the metropolitan police look for in a car.

Detroit city police (from whom we borrowed the car) insist on a certain degree of comfort, since they often put in 8 solid hours behind the wheel. The Studebaker ride, tho on the harsh side, was free of pitching and swerving. On the highway, the car was exceptionally stable (for a light Studebaker), and had none of the insecure feeling that comes with a car that bounces excessively or noses about at high speeds. Complaints stemmed from fairly constant vibrations (tho not thru the steering wheel), due to semi-stiff suspension and partly to lack of undercoating. Roadability, for the most part, was very good. There was some skittishness on washboard surfaces, but the car didn't seem intent on putting us in the bushes; on rippled-surface turns, the rear end could be moved from the straight-and-narrow if it hit an unseen chuckhole. But when anything upset stability, the car could be brought under immediate control thru steering corrections. In even the hardest turns there was only slight initial lean, far removed from the point of severity; it was our impression that the car would drift easily rather than get you into trouble in a sudden crossed-up slide from a loose rear end or front-heavy washout.

Directional stability was above average; dips and bumps wouldn't make it veer, streetcar tracks didn't bother it (a very desirable feature for a police car). Soft road shoulders wouldn't cause alarming body swerve, but it took plenty of tugging to turn the wheel out of dirt or sand. At speeds as high as 90 mph, control and roadability were as positive and reassuring as at 60.

In general city driving, the car's responsive reaction was easy to get used to. Steering, tho light at highway speeds, was considerably stiffer than we prefer at low speeds and while parking.

This car was equipped with overdrive, a prerequisite for some police forces (altho Detroit police say easier maintenance and *less* demand for service have made them switch to automatic transmissions); those police who go for stick shifts may be annoyed by smallish clutch and brake pedals positioned awkwardly close together and offset to the left.

Performance was good (Detroit police demand a car with good 0-60 times), but we wouldn't want any policeman clocking us with this uncorrected speedometer; taken at face value, it deemed this 210-horsepower V8 hotter than the hottest. It indicated 0-60 in the 8-second range, and the car *felt* pretty hot, particularly in 2nd gear. But when we attached the 5th wheel, 0-60 times settled down to a slower (but respectable) 10.5 seconds, pointing up the fallacy of stopwatch-speedometer "tests." Weight distribution seemed good from a roadability standpoint, even tho it was difficult to maintain traction at the rear wheels when digging out in low gear. The addition of police radio equipment and other gear in the trunk would lessen this rubber-burning situation.

Other checks showed all-around performance to be good for a car which can also show its stuff from the economy angle (our average on a fast turnpike trip and including the fuel used in these acceleration checks was over 15 mpg). Stude's 0-30 times averaged 3.1 seconds, its 30-50 time was 3.9, and 50-80 mph averaged out to 11.1 seconds. This car, with less than 200 miles on the odometer, should shave most of these times by some 2 seconds with break-in mileage and a good tune-up.

For comparative purposes, here's what our automatic shift, President Classic sedan test car did, performancewise: 0-30 mph in 4.0 seconds, 0-60 in 11.1, 30-50 in 5.1 and 50-80 mph in 12.6 seconds; honors go to the lighter (by some 170 pounds) Police Special in all ranges. It could be popular with the public. —Jim Lodge

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The MT staff enjoys answering your letters, but recently there has been such a deluge of correspondence that we cannot personally do so. Knowing you would prefer that we not neglect the magazine, we have instituted a policy of answering letters *only* in the Technical Questions column.

I want to install dual exhausts on my '55 DeSoto. Can you suggest any accessory house that has this kit? Nick Overall, St. Louis, Mo.

A. Dual exhaust systems are available thru your DeSoto dealer as special equipment.

Q. I would like to flush out the cooling system on my car. I have been told the best method is to dump a can of lye into the cooling system and run the engine for 30 minutes, then drain and flush. Will this clean out the rust and sludge? Tom Atkins, Coffeeville, Kan.

A. Yes—along with about half of the inside of your engine and radiator core. If you want to do a satisfactory job, however, we suggest the use of a commercial product designed specifically for cleaning out the cooling system. Even then, follow the directions to the letter. This solution can be purchased in any parts house or filling station.

Q. I own a '55 Dodge which develops a squealing sound in the engine every time I accelerate it. At idle or even normal driving it disappears. I am told this is an indication of bearings about ready to burn out. Is there any way to check this without removing the pan? Sigmond Black, Little Rock, Ark.

A. Stop worrying about the bearings—your trouble is a loose fanbelt. A ⅜-inch wrench and 10 minutes of your time is all you need to adjust the tension to allow a half-inch depression between the fan and generator with modest finger pressure.

Q. Recently, when in a friendly discussion about automobiles, I said that a standard gearshift would allow faster 0-60 mph times than a car equipped with an automatic transmission. I was taken to task about this, but still feel I am right. Am I? Stuart Molley, Los Angeles.

A. You most certainly are, Stuart, given identical engines and very skillful drivers. But many automatics come with more powerful engines than the corresponding stick-shift models. New automatic designs now undergoing tests do not have a fluid coupling and under full throttle conditions, they shift at exactly the right moment for maximum torque output.

Q. Can you tell me how to figure the top speed of a car at a known rpm? Bob Macon, St. Louis, Mo.

A. You need to know 2 things in addition to the rpm: the overall gear ratio and the tire circumference. Without resorting to a formula, you divide the gear ratio into the rpm. This gives you the number of revolutions the wheels turn in one minute. Multiply this by the tire circumference in inches, then divide this figure by 12 to find out how many feet the car has traveled in one minute. Finally divide your answer by 5280 (one mile in feet) and the resulting figure is your theoretical miles per hour. Of course, this does not allow for slippage. If you don't know your tire circumference, measure the distance the wheel travels in one revolution. Still interested in your top speed?

Q. I bought a '56 car, and it misses at high speed even after 6 trips to my dealer. When I had it greased, I noticed the gas tank is caved in on the bottom and sides. Could this affect the gasoline pickup line and starve out the engine at high speed? Gene Crouss, Miami, Fla.

A. You have trouble. The collapsed gas tank is caused by vacuum created by the fuel pump. Check the gas cap and you will probably find the air intake is plugged, or some simple soul has put on a radiator cap which has no provision to allow air to enter the tank to replace the gasoline as it is used.

TRENDS IN AUTO RACING

continued from page 28

to be a certainty for the near future (if our current prosperity holds out), and the real dreamers among enthusiasts might even hint that Detroit will eventually get involved with out-and-out Grand Prix cars. No company has been more successful (and learned more) from racing than Mercedes-Benz, a firm primarily concerned with the production of passenger cars. But even if you're a complete dreamer, don't look for this phase earlier than, say, 1965.

The Price of Glory . . .

Every day we see in newspapers, on billboards, and in brochures that this malady and that is taking more and more lives. And, unfortunately, so is automobile racing. This tragic trend in racing is easily the most unpleasant and toughest to face, but it must be faced. Last year was more disastrous for the sport than any of us like to admit—Levegh and 80 Le Mans spectators, Ascari, Vukovich, McGrath, and too many others. And, after an all-too-brief respite, the '56 season seems to be following a similar pattern. Usually-safe stock car racing accounted for 2 deaths in a single weekend in April, one of them fiery little Walt Faulkner, an Indianapolis favorite and a successful Pan American Road Race competitor. The other victim was popular California sports car amateur Ernie McAfee, who died at the wheel of his Ferrari.

The possible results of this frightening trend are difficult to predict. When spectators are involved in an accident (as they were at Le Mans) there's a natural uproar. As for driver deaths, even the once-valid argument that a race driver knows the risks and races only because he wants to doesn't hold much water any more. Singular deaths like Bill Vukovich's and Walt Faulkner's, vividly described and graphically portrayed in newspapers as they were, are justifiably shocking and sickening to many people, fans and non-believers alike.

We have witnessed bans on auto racing by foreign governments for these very reasons, and these bans have been wisely countered with improved safety measures for spectators and drivers. But in the U. S., where the sport has so far been blessed with a hands-off policy by the government, safety has lagged far behind speed. A Le Mans incident in the U. S. could easily put a sudden halt to the fascinating trends we have spoken of. New race courses like Road America and L. A. Raceway will vastly improve spectator safety, but there's serious doubt that driver deaths will decline. The best we can hope for are cars designed with driver safety more specifically in mind, but more likely we'll have to depend on the fluctuations of luck and the subsequent hot and cold periods of motor sport criticism.

Pikes Peak Parrots Indy . . .

After announcing originally that all cars (both championships and stocks will run this year) at the Pikes Peak Hillclimb would be required to use pump gasoline, the rules committee followed the Indy precedent and was lulled into changing the rule to allow contestants to use any type of fuel they desire. And, with the Pace Car plum for Indianapolis long sewed up, DeSoto will get the added distinction of pacing the Hillclimb with its new 320-horsepower Adventurer.

NASCAR Newsnote . . .

Tim and Fonty Flock have quit driving for Kiekhaefer, with Tim switching to Chevrolet. Mr. K is reportedly very unhappy, and is evening the score by putting Frank Munday in a Dodge to chase them. He has been giving them a bad time; he wins.

Surprising Silverstone . . .

Britain is back in competition with the 4-cylinder direct-fuel-injection Vanwall Special. With Stirling Moss at the wheel, a new winning record average of 100.47 mph was set, along with 13 laps at a record 102.30 mph, shared with Mike Hawthorn in a BRM. Second and 3rd places went to Connaughts, and all Ferraris retired with mechanical failures.

Was Ist Los? . . .

Last fall, Daimler-Benz announced its temporary retirement from racing. Now, 2 teams of Mercedes-Benz cars were entered in the Mille Miglia, as "private" entries. Notably, there were many factory "spectators," with equipment, around the pits. A team of 220-A sedans did poorly, but the new 300-SLs (with modified SLR frames?) did take 2nd and 3rd to Ferrari in the Gran Turismo class. In contrast, Porsche racing director Huschke von Hanstein could look with pride at the class win (1st, 2nd, and 3rd place) his charges accomplished. The Mille Miglia Porsches are lighter, stronger, and hotter than the Sebring cars.

The weather was foul, with violent storms and torrential rain. Stirling Moss and Piero Taruffi crashed, without injury, but 3 other drivers and 4 spectators were killed, and 9 persons were injured. Ferrari swept the 1st 4 places with Eugenio Castellotti winning with an average 87.975 mph, fog and all, in the new 3.5 V-12 model. He was followed by Peter Collins in the older 4-cylinder Ferrari.

Motor Sports

what's coming up?

june

16-17, SCCA Hillclimb, Mt. Equinox, Vt.
16-17, SCCA Race, Santa Monica, Calif.
16-17, SCCA Race, Fresno, Calif.
17, Grand Prix of Holland, Zandvoort
23-24, SCCA Race, Elkhart Lake, Wis.
23-24, CSCC Race, Pomona, Calif.
24, USAC 100-Mile Championship, Langhorne, Pa.
30, SCCA Race, Buchanan Field, Calif.

july

1, Grand Prix of France, Rheims
4, USAC 200-Mile Championship, Darlington, S.C.
4, USAC Hillclimb (Stocks and Championship), Pikes Peak, Colo.
4, NASCAR 200-Mile Grand National, Raleigh, N.C.
4, NASCAR 200-Mile Convertible Race, Syracuse, N.Y.
7-8, SCCA Race, San Luis Obispo, Calif.
14-15, SCCA Hillclimb, Mt. Washington, N.H.
14, Grand Prix of England, Aintree
17-21, SCCA Giants' Despair Hillclimb and Races, Wilkes-Barre, Pa.
21-22, CSCC Race, San Diego, Calif.
28-29, 24-hour Grand Prix of Endurance, Le Mans, France

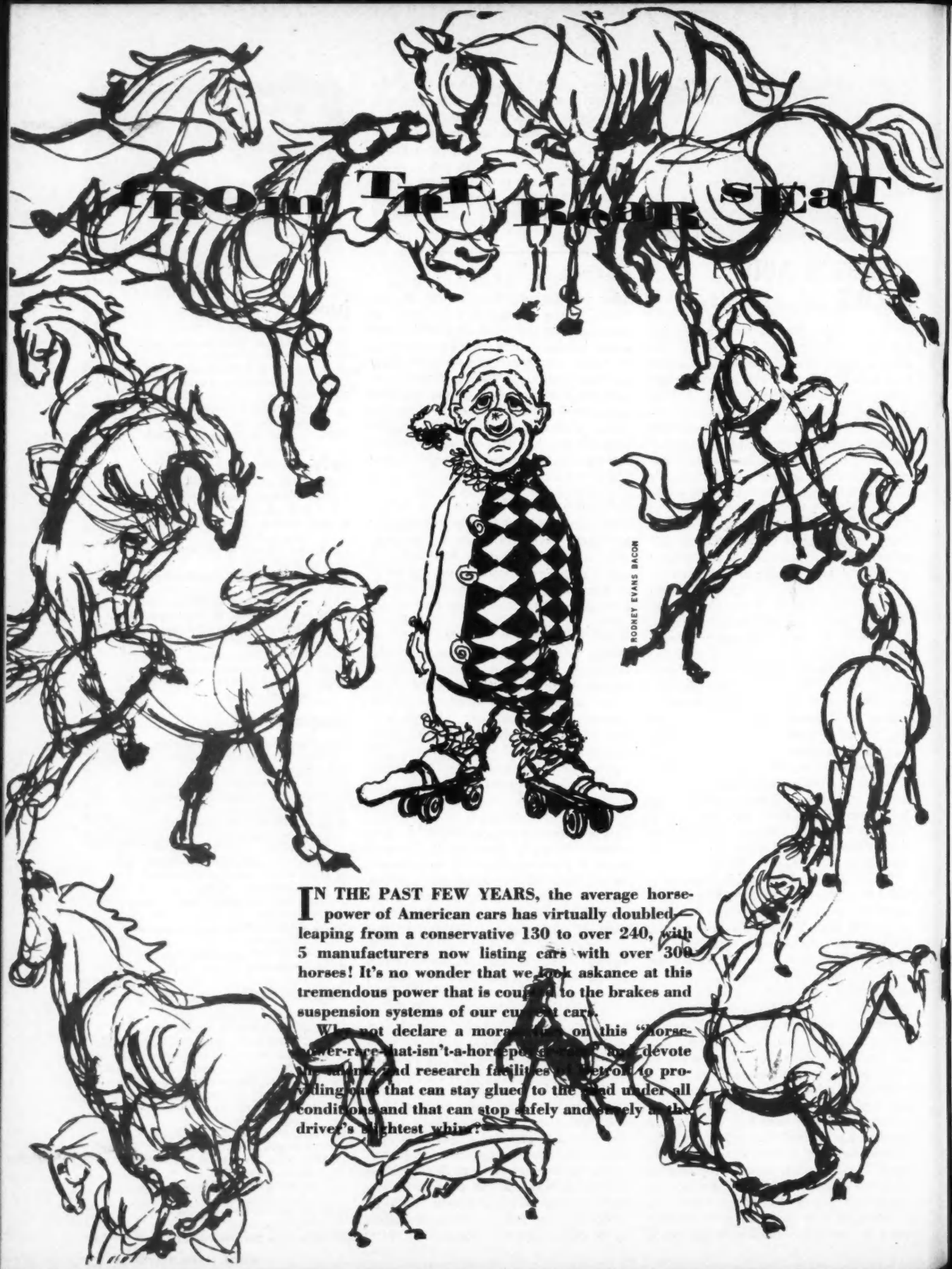
august

5, German Grand Prix, Nurburgring
11, USAC 500-Mile Race, Stayner, Ontario, Canada
11-12, SCCA Race, Bremerton, Wash.
12, NASCAR 250-Mile Grand National, Elkhart Lake, Wis.
18, USAC 100-Mile Championship, Springfield, Ill.
18-19, APBA Gold Cup Regatta, Detroit
19, Grand Prix of Switzerland, Berne
19, NASCAR 250-Mile Grand National, Bay Meadows, Calif.
25, USAC 100-Mile Midget Race, Milwaukee, Wis.
25, NASCAR 250-Mile Convertible Race, Raleigh, N.C.
26, USAC, 200-Mile Championship, Milwaukee, Wis.

september

1-2, SCCA Races, Thompson, Conn.
2, Grand Prix of Europe, Monza, Italy
3, USAC 100-Mile Championship, DuQuoin, Ill.
3, NASCAR Southern 500, Darlington, S.C.
8, USAC 100-Mile Championship, Syracuse, N.Y.
8-9, SCCA Race, Elkhart Lake, Wis.
15, USAC 100-mile Championship, Indianapolis
16, NASCAR 300-Mile Grand National, Langhorne, Pa.
16, NASCAR 300-Mile Convertible Race, Memphis, Tenn.
22, SCCA Race, Los Angeles International Motor Raceway
23, NASCAR 250-Mile Convertible Race, Martinsville, Va.
27-30, SCCA Continental Divide Rally, Durango, Colo.
29, SCCA Race, Sacramento, Calif.

FROM THE EDITOR'S SEAT



IN THE PAST FEW YEARS, the average horsepower of American cars has virtually doubled—leaping from a conservative 130 to over 240, with 5 manufacturers now listing cars with over 300 horses! It's no wonder that we look askance at this tremendous power that is coupled to the brakes and suspension systems of our current cars.

Why not declare a moratorium on this "horsepower-race-that-isn't-a-horse-race" and devote the talents and research facilities of Detroit to providing cars that can stay glued to the road under all conditions and that can stop safely and surely at the driver's slightest whim?

THOUSANDS OF USERS SAY THEY

GET MORE POWER . . . FASTER PICK-UP . . . SMOOTHER PERFORMANCE

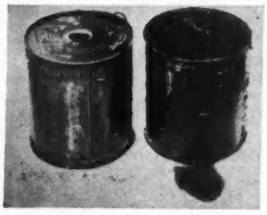
SIMPLY BY REPLACING THEIR "DRAIN" PLUGS WITH MAGNA-POWER

Take out the old; put in the new! Magna-Power, for cars, trucks, tractors, is installed in a jiffy when you change oil.

A SURPRISED LOS ANGELES MOTORIST writes: "HAVE HAD SUCH STARTLING RESULTS. . . . I HAVE A HARD TIME BELIEVING IT!"

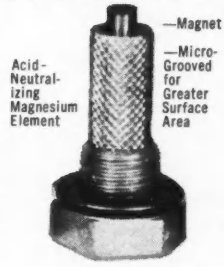
AMAZED CUSTOMERS, NATION-WIDE, ARE WRITING BY THE HUNDREDS TELLING US OF INCREDIBLE INCREASES IN POWER AND PICK-UP, CLEANER OIL. . . . AND UP TO 15% or 20% BETTER GAS MILEAGE.

MAGNA-POWER IS SO EASY TO INSTALL—NO SPECIAL TOOLS. . . . JUST SCREWS INTO OIL DRAIN HOLE REPLACING THE PRESENT DRAIN PLUG TO GIVE ACID-FREE OIL FEED TO VITAL ENGINE PARTS.



Filter and oil sample (left) from a car using a Magna-Power plug show less sludge and contaminants—both are still clean. Filter and oil sample (right) from car without Magna-Power show normal heavy deposits at same mileage.

Heavy carbon deposits are actually "baked" on the piston crown (right). Formation of carbon on piston (left) shows remarkable difference when resins are inhibited by Magna-Power. Build-up of carbon causes loss of power and increases oil.



magna-power

Pat. App. for

THE ACTIVE CRANKCASE OIL DRAIN PLUG

Acid action on Magna-Power element after 10,000 miles shows harsh effect of acids from burning gas on vital engine metals. Effectiveness of Magna-Power is proved by discoloration of unit from salts due to neutralizing action.

SEE FOR YOURSELF. What looks like inactive shiny metal is actually a solid metal chemical reactant. Using a common acid solution such as vinegar, fill a small tumbler and place Magna-Power in it. See it fizz as acid neutralizer action takes place.

FROM CEDAR GROVE, N.J.:

"When I first saw Magna-Power, my first question was how can a little piece of shiny metal buried away in the crankcase of my car do all that they claim.

"I drive a 1954 Olds (Holiday model) of which I am as overzealous as a lioness for her cubs, so I normally don't like to take chances with gadgets —but Win Johns who invented Magna-Power (an automotive engineer with heavy experience) said it couldn't hurt to try it and, although a skeptic at heart I figured he was right. After all, it sits in the crankcase away from working parts—it can't hurt anything. So I tried it.

"Well, after one week, I was surprised at the smoothness, increased power and condition of my oil. I checked myself mentally to see if it was just a psychological after-effect but the oil dipstick test proved otherwise.

"I'm convinced now that acids manufactured by burning gas eat away micro particles of metal engine parts every day. No, I don't intend to keep my car for twenty years but boy, it sure feels good to know that my handsome hunk of machinery is safeguarded against the old abuse of heavy acid wear."

This letter—one of a daily mounting file, is typical of the reaction from users of Magna-Power plugs. From skeptic to expert, this oil drain plug with the active magnesium element and Alnico magnet is winning favor across the continent.

WHAT CAUSES ENGINE FATIGUE?
THE ANALYSIS IS EVIDENT

THE CANADIAN GOVERNMENT TESTING BUREAU gives this report in part:

"Adding certain metals or chemicals to automobile oil will greatly extend its useful life. To the motorist this means that he may be able to drive 7,000 miles or more without changing oil, instead of the usual 1,000 or 2,000 miles.

"Several years of laboratory work have shown that the metals, Lithium, Potassium, Sodium and Magnesium, or some of their salts or oxides slow down the oxidation that destroys and contaminates motor oil. The National Research Council suggests that a piece of one of the metals could be placed in direct contact with the engine oil by attaching it to the car's oil drain plug . . ."

In other words, their findings corroborated Win Johns' findings. Neither knew of the other's research, although Mr. Johns was manufacturing the plugs at the time of the Canadian report.

MAGNA-POWER SAFEGUARDS AGAINST THE ENEMIES OF ENGINE LIFE

Quickly installed in the crankcase of your car, Magna-Power quietly goes into action against destructive acids and flying metal splinters. How does acid get into the oil? Each 1,000 gallons of gasoline contains about 6 lbs. of sulphur, ample enough to make 5 gallons of strong sulphuric acid. As the gas burns, destructive gases of sulphur and other acid-laden gases are made.

Partly burned gasoline also makes "fatty oils" that mix into the oil. These oils are good for your car but are also attacked by the strong acids. As they are destroyed, they form gummy varnish that cause sludge and engine deposits. Water (you've seen it drip from the exhaust) made by the engine activates the acids into a truly destructive force against metal.

MAGNA-POWER STOPS ACID WEAR

The easiest and surest way, today, is to use a solid chemical neutralizer attached to your oil pan drain plug. The Magna-Power is a drain plug with a rod of a special alloy of magnesium, which is by nature an alkaline metal. Acids much prefer this magnesium to other metals in the engine; but in eating it these corrosive acids are destroyed. There is enough alloy to last at least 75,000 miles.

TRY MAGNA-POWER AT OUR RISK

Fill out the coupon at the bottom of this page and mail it to us today. Your order is filled the day it is received and the Magna-Power is sent to you with a Permanent Money-Back Guarantee. If you are not satisfied with the way it works, send it back at any time (years from now, if you choose) for an immediate refund.

Magna-Power, $2.95 postpaid, is available for American cars, trucks and tractors, as well as popular foreign autos. Canadian orders filled from Toronto stock . . . $2.95 each, tax incl. Canadian checks, money orders or cash accepted. Indicate year, make of vehicle with all orders.

MAGNA-POWER — THE *ORIGINAL* ACID-NEUTRALIZER

Johns Mfg. Corp., Dept. M-7, Middlesex, N.J.

JOHNS MFG. CO., DEPT. M-7

MIDDLESEX, N.J.

My car is a ..... (make) ..... (year).

Please send me, postpaid, a MAGNA-POWER acid neutralizer. I enclose $2.95. I understand that it is sold with an unconditional guarantee of satisfaction or my money back!

Name.....

Street.....

City.....State.....

Just what paste wax needed - a built-in cleaner!

Johnson's J-Wax new Paste Wax Discovery does the cleaning work for you!

Start right in waxing! No extra cleaner needed—nothing else to buy!

Here's what you've been waiting for—a paste wax with a cleaner built right in! Johnson's new J-Wax saves you hours of pre-cleaning. J-Wax takes the dirt off for you—replaces grime with a crystal-clear coating of wax. Even the dirt you can't wash off loosens instantly and disappears as you rub on this new self-cleaning paste wax.

Then watch the high brilliant luster that comes as you buff. J-Wax sets smooth and hard—bonds itself into a long-lasting wax-tight seal. Gives your car the tough wax protection it needs for any weather. And look! The colors are far brighter, truer—even the chrome glistens.

Get your car ready now for the months ahead. And let J-Wax do the cleaning work for you. It's the easiest, fastest way to genuine wax protection—*paste wax protection!*